

UTILISATION OF COAL DUST.
BARKER'S PATENTS.

THE LONDON PATENT COAL COMPANY (LIMITED)
having arranged with the patentee for the exclusive right to these patents within the United Kingdom, desire to call the attention of coal owners, ironmasters, and others, to the value of the invention by which the waste and small coal can, by a simple and inexpensive process, be rendered available for all the ordinary uses of the coal from which it is derived.

A series of careful experiments have been made on the Monmouthshire Railway with fuel manufactured from the Risca Black Vein Coal (small) in locomotives working heavy mineral trains over severe gradients, by which it has been ascertained that increased duty was obtained from the fuel over the same coal. The results of these experiments are so satisfactory that Mr. Alex. Bassett, C.E., of Cardiff, has consented to act as the company's representative for granting licences in South Wales, and will be happy to reply to all enquiries and give full explanation respecting the trials that have been made under his superintendence. Mr. Thomas D. Clare, of Birmingham, has also undertaken to represent the company in the Midland Counties, and large works are in course of erection in the Forest of Dean by the company's licensees there.

The company are prepared to grant licenses for the use of their patents, and from the success which has attended the manufacture at their own works, and the extraordinary popularity of the fuel for retail purposes amongst the lower classes, they believe that in every populous town a large and highly profitable trade may be carried on.

The cost of the ingredients used in the manufacture does not exceed 1s. per ton; they contain no pitch, tar, or other noxious substance, and the manufacture is not more expensive than ordinary brick-making.

The blocks are available for every purpose of ordinary coal, and stow in one-fourth less space (1 ton of fuel occupying 33 cubic feet only, as against 42 Admalty measure for coal).

The cost of the machinery, &c., necessary for the production of 100 tons daily will not exceed £700.

Experiments have for some time past been in progress at Woolwich with the view to render petroleum and other analogous oils available for use under steam-boilers. The patentee's attention being directed to this fact, he found that the company's fuel, being porous, would rapidly absorb these oils, 1 ton of fuel taking up 50 gallons. This absorption does not in any way affect the solidity of the blocks, and it is believed they are the best medium for the purpose yet discovered, and that the fuel oil bricks will be an immense advantage to ocean steamers and vessels of war, on account of the vast saving in stowage and their steam-producing powers. The Admiralty have just granted permission for an official trial of the company's fuel to be made at Woolwich.

The value of the company's patents to all coalowners must be at once apparent. It is also of especial value to ironmasters; and, where the slack is used for coking purposes, the process may be adopted to advantage in roughly amalgamating the coal into blocks before placing it in the ovens. These blocks require no previous drying, and produce more coke and of better quality.

The company will be happy to receive specimens of coal dust at their North Fleet Works, which will be manufactured and reported upon free of charge, and they will send a competent person to manufacture a small quantity of fuel at any colliery where the experiments may be desired.

For further particulars respecting license, terms, &c., apply to the company's representatives in their respective districts, or to the Managing Director, 26, Martin's-lane, Cannon-street, E.C., London. By order,

EDWIN W. GLOVER, Secretary.

FRANCE AND BELGIUM.

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For all information apply by letter to HAMMOND and SON, No. 26, Cornhill London.

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REVIEWS OF THE WORK.

"MANHOOD.—We feel no hesitation in saying that there is no member of society by whom the book will not be found useful, whether such person hold the relation of a parent, preceptor, or clergyman."—*Sun Evening Paper.*

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Original Correspondence.

ROCK-BORING MACHINES.

SIR.—At the Exhibition of the Polytechnic Society, at Falmouth, next week, the interesting and important subject of rock-boring machines will be brought before the public in a prominent manner. The Society's able secretary (Dr. Clement Le Neve Foster), from his late official position of juror in mining and metallurgy at the Paris Exhibition, had great facilities afforded him of examining the various perforators exhibited there, and as he has since visited Prussia and Sweden, for the express purpose of obtaining additional information respecting two machines that have been at work there for a considerable time, and both of which are said to effect a great saving in cost and time, his information will be of unusual interest. His engagements in foreign exploration oblige him to quit Cornwall almost immediately after the Polytechnic Exhibition, so that it is very desirable that all who feel the importance of the subject, as regards our Cornish mines, should avail themselves of his information before he leaves. I understand that one of Mr. Döring's drilling-machines, with recent improvements, will be sent to the Polytechnic. His drilling-engines are in daily use at the zinc mines of the Vieille Montagne, and the rate of advance is said to be two-and-a-half times what it was by hand labour, and at less than two-thirds of the cost. I am also informed that a model of the American rock-boring machine, invented after many years of thought and labour, by an eminent American engineer, General Herman Haupt, will also be sent to the Polytechnic, and that he is expected to be present to explain it.

When at Paris, about two months since, I accompanied a friend of mine in his inspection of the various borers to be seen there from England, France, America, Prussia, and Sweden, and we were much interested in the survey. They are all modifications of Sommelier's well-known perforator in the Mont Cenis Tunnel. That of French invention appeared cheap and compact, and has the peculiarity of using diamond points instead of a steel borer, and is worked by water, whereas the other machines are worked by steam or compressed air. If, in addition to the above-mentioned models, there should also be at the Polytechnic plans of Low's and Captain Beaumont's borers, and of the French diamond point, as I hope will be the case, why, as friend of mine observed, it will be the first opportunity ever presented to English miners of studying rock perforators.

Does not the simple fact of so many machines representing as many nations, vying with each other at the Paris Exhibition, express a great want of the times, and a general and widely extended effort to supply it? Within the last few years the engineering thought of the country has been also turned in this direction—then let not Cornishmen be behindhand in applying that modification of the rock borer which, after careful deliberation, shall appear most applicable to the requirements of our Cornish mine levels. Might not the adventurers of one or two leading mines commence the trial by hiring one machine (say) of Döring, and another of General Haupt, and thereby practically test their respective merits side by side, and without any outlay for the plant?

A. L. F.

who are thus deprived by the Act, for two years, of the result of boy's labour. From 10 years old a miner's boy can earn quite enough to keep himself in food and clothing, and there can, therefore, be no reason why he should be kept idle till he is 12 years old, merely to suit the delegates and their dupes.

With regard to the number of Inspectors, it is extremely doubtful whether any increase in the present staff is at all necessary. Where the Inspector is a competent man the work at present imposed upon him is not found to be excessive, but I admit some complaints have been made of inattention in certain districts. The late Mr. Mackworth always found time to perform the duties of his office most efficiently, so did Mr. John Hedley, and so at present do Mr. Dickinson, Mr. J. P. Baker, and Mr. Ralph Moore. It is probable that many of the others give equal satisfaction, but as I have never been brought into contact with them I express no opinion. New, the views—rather the reverse. Mr. Mackworth and Mr. Hedley were neither of them much liked by the masters, although their opinions were always respected. Mr. Baker, although appointed upon the recommendation of the masters, has from the day of his appointment given his sympathy to the men. Mr. Dickinson is quite beyond confidence that he will exert himself to the utmost to get an cause of complaint removed; and Mr. Ralph Moore was appointed upon the recommendation of the men themselves, the secretary of the Miners' Union actually making a special journey to London to get the workmen's parliamentary friends to use their influence to get Mr. Moore selected from the number of candidates, and as Mr. Moore was in every way suited for the office, the men's wishes were complied with. Now, if I say the nine hardest-worked Inspectors can perform their duties efficiently, why should the number be increased? The twelve cost at present about 10,000/- a year, and surely that is quite enough to pay, when no additional advantage would result from a greater outlay.

A BUTTY.

ZANTE PETROLEUM—INTERESTING EXPERIMENTS.

SIR.—You were informed in a recent number of your valuable Journal that an experiment upon a small scale had been made by Dr. Versmann, to test the value of the Zante petroleum, and I send you extracts from his report. The result of that initiatory experiment, as it were, proved so encouraging that the directors of the company deemed it desirable to submit their petroleum to a further and more complete analysis, and accordingly eight barrels of the petroleum were delivered to the same gentleman, to analyse and report as to its quality and value. This he has now done in a very lengthy and exhaustive report, now before me, from which I venture to make a few extracts, which may prove interesting to many of your readers. After describing the process by which the distillation was effected, and its result, and giving some calculations as to value, Dr. Versmann states that the Zante oil possesses special qualities which distinguish it from American and other petroleums. These qualities are—

1.—The oil dissolves India-rubber with the greatest facility, and forms a solution in a much shorter time than any other solvent, which is of great importance to the manufacturer.

2.—The heaviest part of the distillate, which is, in fact, a strong solution of the resin, and this resin itself may be used as a waterproof varnish for stone, marble, wood, &c., imparting at the same time a light yellow colour.

3.—The resin, treated with nitric acid, is converted into picric acid—a substance largely used in dyeing silks, &c., yellow, and now chiefly manufactured from the yellow resin.

4.—The residue, from treating the oil with acid, has a characteristic aromatic smell of palongone-acid—an organic compound not frequently met with in nature. I succeeded in separating this acid, which, when converted into picric ether, is used as a perfume, and as an admixture to spirits to produce a peculiar whiskey smell. The manufacture of this article, even in small quantities, will be very remunerative; it fetches a high price, in consequence of difficulty in obtaining it in sufficient quantity.

These indications will suffice to show that the oil, if properly treated, is capable of yielding considerably larger profits than can be obtained by selling it as petroleum spirit, petroleum oil, and lubricating oil alone; and I have, therefore, no hesitation in concluding my report by the expression of my firm belief, based upon a careful and exhaustive investigation, "that your Zante petroleum is a superior quality, and that the proper working of it must be highly profitable."

I may add, for the benefit of those of your readers who may be interested in such matters, that samples of the petroleum in its different forms of distillation may be seen at the office of the company, No. 33 Cannon-street, City.

ZANTIQUE.

THE TIN TRADE—A NEW SOURCE OF SUPPLY.

SIR.—Great expectations are at present entertained in New York that the time has arrived when the United States will not only become independent of all other countries for her supply of tin and tin-plate but also that America will speedily become the chief tin-supplying country of the world. It is stated that in the State of Missouri the largest lode of tin in the world has been discovered, and as the report of the geologists and practical men who have examined the locality are highly favourable, intense excitement both in and out of the district has, not unnaturally, been the result. In the district it is very generally believed that "Cornwall's glory has departed," in consequence of the new discovery. One half of the population own mines, and the other half are trying to own some. Everybody has a piece of tin ore in his pocket, and there is scarcely a blacksmith shop in the country where ladies and pans have not been coated with it. Blow-pipes protrude from pockets as frequently as "bowies" do in Arkansas. Several thousand acres of land has recently been entered in Madison and Iron counties, upon which the owners hope to find tin—lands which have heretofore been considered as almost worthless because of their hilly, rocky character and remoteness from river and railroad communication. These lands have been entered and purchased by persons from various parts of the State and elsewhere; and as the explorers have three experienced Cornish miners—Mr. R. W. Dunstan being amongst the number—to guide them, it is unlikely that anything of value will be overlooked. Hitherto the results have been most favourable. With regard to the "Tin Mountain," Professor H. M. Beaufort, a graduate of the Paris School of Mines, writes:—

"The mammoth lode is underlaid by a close compact granite (rock of primitive formation). The stony matter are so firmly cemented together that the whole forms but one solid mass, without the slightest indication of pores or fissures. The granite in which the 'tin' is embedded is found of all shades and colours, from a bright green to a deep brown, and frequently in the same block. These deposits, lying in a ravine running from north to south, with an inclination of 20° east, and extending for a distance of a quarter of a mile through the property, are classified as 'alluvial tin ore' or 'stream tin' in mineral parlance. The peroxide of tin occurs disseminated in the alluvium which covers the slope of the ravine; but it remains to be seen if the 'tinstone' is distributed in the deposits in sufficient quantities to pay for working." * * * The vertical projection of the mineral is remarkable for interlaced masses and veins. As it occurs frequently, the particles are associated with other minerals, having gneiss-felspar interspersed. * * * I have made three comparative assays with specimens obtained from the surface of the lode. First, from a light to a dark green colour, showing in an unmistakable manner the presence of black tin, exhibiting the same characteristics as specimens from the tin mines of Saxony. Second, from some specimens of yellow and grey yellow streaks, containing a small quantity of tin; and if we take into consideration their position at the surface, they present very good indications. Third, the brown specimens contain no metal, however, the covering of 'putty,' which is found very abundant, is of a rich quality, and if we consider that these assays were made in open air, that tin is the most oxydable of metals, and that it is necessary to obtain a temperature of heat equal to 442° Fahrenheit in order to smelt it into ingots, the object in view to establish the fact of the presence of tin, is reached."

The discovery of the Missouri tin is due to Dr. Albert C. Koch, in consequence of whose researches its existence has been known for the last 12 years, although until now no energetic steps have been taken. An investigating committee, including Dr. Koch, Professor Beaufort, Prof. Wilcox, of Genesee College, and others, has been formed. They found that the "pioneer lode" is beneath the surface, and about 18 in. in width, almost perpendicular. The next lode is found cropping out on a hill side, perhaps 100 ft. above the level of the valley. The hill is quite steep, and one of those mountain brooks which rise with rapidity, and in their descent remove from their position large rocks, had washed away across and through this deposit, exposing to view a diagonal "cut" to an average depth of 10 ft. The recent heavy rains had increased this stream (now dry) to such size and power that we could clearly see where specimens of the tinstone were drifted into the valley below, while the black sand (yielding 5 per cent. of tin) was found liberally strewn along the road in the valley, and along the bed of the stream in considerable quantities. Several very fine specimens of tinstone were found here, as also asbestos, usually found in connection with tin. The width of this lode or vein is from

At the stream; the eastern or main branch continuing in a line with the large lode north and south, 20° east, while the smaller one from the junction runs north & west. The two unite on the hill side, forming a lode between 300 and 600 ft. in width, literally a "tin mountain." Among the specimens obtained for analysis were some beautiful peroxide crystals of tin, very nearly resembling the German ore, and other specimens similar to but more pure than those from the surface at the Cornwall mines. A mere rough analysis of a German sand-pot obtained 17 grains of black tin (11 grains of pure white tin from 1 lb. 6½ oz. of the tinstone taken indiscriminately), and he estimates that 20 per cent. of the tin was lost in extracting it. The result of the assays that have been made, even in a crude manner and from surface ore where, according to Cornishmen, little or no real tin should be expected, are very satisfactory, and the conclusion arrived at is that there exists beyond question an almost inexhaustible supply of tin ore in Missouri, of a quality that will pay a very handsome profit for working it.—*Glasgow, Aug. 14.*

J. R. T.

GOOD NEWS FOR COPPER PRODUCERS.

SIR.—A week or two since I drew attention in the Journal to an important invention for lining lead pipes and cisterns with tin, which I trust may be adopted, for the health of the community and the advantage of tin mining. Casting about to find a bit of good news for copper producers, I am pleased to notice the following paragraph:—

The Lords of the Admiralty have invited the principal shipbuilding firms in the United Kingdom to send in tenders for the construction of an armour-plated iron ship of about 2300 tons. This vessel is to be supplied with twin screws, and her bottom is to be sheathed with wood, which is to be coppered.—*Army and Navy Gazette.*

In following, from time to time, the unceasing endeavours of invention to solve the important problem of how to protect the bottoms of our iron ships, I have always had a sort of crude idea that eventually we should have to return to copper in some form or another, and it certainly does seem likely to be the case. If so, it must give a great impetus to the copper trade, for there cannot be a doubt that the use of iron ships, and consequent abandonment of coppered bottoms, has been one great source of injury to the copper producers.

Aug. 14. — NOTHING LIKE COPPER.

THE PROGRESS OF MINING—AS A SCIENCE, AND SOURCE OF COMMERCIAL WEALTH—No. X.

SIR.—Neither the discovery or the working of mines has been such a blind game of chance, such a leap in the dark, as many people are in the habit of describing it. The mineral resources, or rather the metallic lodes, of many countries are developed to a very visible degree, and in those districts where the lines of veins are most hidden by overburden there are generally numbers of objects that give a very good clue to their bearings. Owing to the peculiarity of construction of metallic lodes, with reference to the surrounding, or rather enclosing rocks, it is frequently easy to trace them for long distances where the metallic veins are highly crystallised and hard, the crests of the lodes frequently stand up like old castles along the surface of the land; possibly, in this case, the surrounding rock is worn down, and degraded by atmospheric influences, leaving the crystallised rock, generally of a quartzose character (in Cornwall called scovan lodes), towering high up over the surface of the surrounding ground. In other instances the surface of the ore veins are composed of gossan, ferruginous matter, and the oxides of the metals, and, consequently, are softer than the embedding rock in which the lodes are formed. In these examples of the outcrops of the ore ground the surface of the veins are worn down by the action of the atmosphere, forming peculiar trough-like hollow, with the sides rounded off, something like a flexible fabric, supported between two horizontal bearers, extending for miles across the country. This form of outcrop is well known to the miner, and in a new country he will readily detect the presence of such metalliferous veins, and point out their lines over large areas of country. For example, in Flintshire the course of the great Talgarth Mine is discernible for an extent of several miles, so conspicuous is the line of its range that often its two sides or walls stand up, forming for some fathoms almost perpendicular walls, making the sides of the valley attending its back. Along and across the Halkin mountains the great lead veins are equally perceptible, and the Mold and Maes-y-Safn lines of ore ground are strongly marked at the surface. The Romans were exceedingly well skilled in the topography of mineral veins, and they so well detected the outcrops of the ore ground that a mine is seldom discovered that has not the trace of some previous handling by those celebrated old miners. I was somewhat surprised, in traversing some extensive mining regions in North Africa last year, to find the same traditional character of the celebrated people handed down on the sites of the old excavations or mining, and the remains of ancient architecture. The Romans are in everybody's mouth, and I thought what a strange thing it is that after 1800 or 2000 years the Romans should have so left their mark in that as well as our own country that the result of their operations should be so frequently alluded to; and it is no less remarkable that the modern populations have such faith in the science and skill of the gifted old race, that they generally say, if the Romans have been here there is little fear but that we shall meet with a good body of metals, and have a good mine.

In Cornwall the lines of the metallic veins are not so much evidenced on the surface, but still the great metallic ranges, like those of Redruth and Camborne, Penstruthal and the Gwennap lodes, and the Gwinear lines, form a clear feature in the landscape. Now, it is true that the lines of lodes are identified by the lines of engine-houses, and, perhaps, the anatomy of the Cornish veins is better understood than that of most other countries, as the mining districts are mostly crossed by adits from the sea, from either one coast or the other. In such cases every inch of ground has been searched with the minutest attention. It is, however, possible even with an adit traversing the country to pass bodies of ore. I remember when a lad, working underground, I was one of a party engaged in driving one of these great adits across the country, with a view to the laying open of new lodes and fresh ore ground. It was the Old Wheal Neptune adit; it had been driven up north-eastward a distance of nearly two miles from the sea. Having passed through Trenow lodes, Old Wheal Neptune lode, Great Wheal Neptune and Wheal Pratle lodes, we came upon the south face of Wheal Caroline lode; we crossed into it for 2 ft. or 3 ft., and saw no metal, when we diverted our course, following it along the north wall for 50 fms., and then crossed boldly through it, and to our great delight, we found the north part of the lode, for 30 in. wide, composed entirely of copper and gossan. In going east 50 fms., and cross-cutting the lode through, we found the same course of ore continued to this point, and that we had been travelling by its side, leaving a good mine, without knowing it, for fully 100 yards. This incident certainly appears to show that mining is a lottery, but, in fact, it only proves that we imperfectly carried out the system on which we were engaged, for if we had continued our cross-cut through the lode, without turning and following the lode, the discovery must have been made at first, as it was eventually, by the cross-cutting system, which was the design laid down for us in our then daily occupation. In the great clay-shale formation of Cardiganshire immense lodes crop up for fathoms in height above the surface, indicating the lines of the metallic lodes, such as at Esgair-y-Mwyn where many hundreds of thousands of pounds worth of lead were dug out from only a little below the very outcrop.

Again, there is the famous Bronfloyd vein, in the old books called Bronlwyd. This vein manifests itself distinctly for a distance of six or seven miles, beginning westward at Bronfloyd, where it forms a good course of ore for 60 feet wide; it crosses the valley, and appears along the surface of Bronfeirg Hill side; it crosses over the hill of Coed Griffith, with ore coming up to the surface, but not wrought; it then goes down ½ mile to Willow Bank, where it forms great walls of gossan, like an old castle; from there it proceeds to the top of Llettynewydd Hill, and from a partial trial yielded a large quantity of lead; thence it goes on another mile to Llowercumbach, where it produces a goodly quantity of ore, but all the intermediate ground, which will eventually form immensely rich and grand mines, is entirely untried; it thence goes to Bwlch Stellan, forming there masses of gossan, as large as houses, and I hear some discoveries of lead ore have recently been made there; thence it traverses a large expanse of peat ground, until it reaches Caerdydd Mawr, the foot of the main Plynnimon range, and ascends in whole ground the body of that immense mountain. It is impossible to form the slightest idea of the great amount of wealth contained in this untried lode; its great width of 60 feet, the strength of its crystallisation showing itself at the surface for many miles, and its profitable results at Bronfloyd, characterise it as one of the grandest developments of untried

mineral ground that I know of as lying exposed and unworked in that or any other mining country.

M. F.

MINING IN SHROPSHIRE.

SIR.—Having, during the last few months, been engaged professionally among the lead and copper mines of Shropshire, I have been greatly struck with the immense importance and capability of the district, the merits of which are, strange to say, so little known to the general public. For the information of your readers, to whom, no doubt, it will be interesting, I propose giving you during the next few weeks some notes of my experience among those mines.

The metallic mining district of Shropshire is a hilly country, skirting the borders of Montgomeryshire, and, indeed, may not improperly be considered as naturally a portion of Wales, included accidentally in the county of Salop. The most striking feature of the district—whether regarded from a physical, a geological, or a mining point of view—is the remarkable range of the Stiperstones, which passes through the district with a direction something like N.N.E., S.S.W. On the west side of this range is the great and well-known lead district comprising the famous mines of Snailbeach, Roman Gravels, the Bog, Pennerley, Oven Pipe, &c., which are estimated to have returned about 5,000,000£ worth of lead. These mines are situated in the Silurian rocks which overlie the Stiperstones on the west. To the east of the Stiperstones we have, underlying them, the Cambrian Rocks of the Longmynd, which in the Habberley Valley—the valley which immediately succeeds to the Stiperstones ridge—are found to be composed of a dark sandstone. The sandstone of this valley has long been known to partake of a cupriferous nature, although it is only within the last year that its real importance has been practically ascertained; but within that period one of the richest copper mines—if not the very richest—in the kingdom has been opened out at Westcott, on the east side of the Habberley Valley, in the Cambrian Sandstone, and is now being worked on an extensive scale by the Shropshire Copper Company.

The SNAILBEACH MINE, which lies immediately to the west of the Stiperstones, is the northernmost mine in the lead district, as well as the oldest established, having been in continuous and profitable working for upwards of eighty years. Having been hitherto worked by a private partnership, which smelts its own lead, nothing is publicly known as to its returns or profits—but it is generally understood that its average returns are about 250 tons of lead ore per month, raised almost entirely from one lode, which is now worked to a depth considerably below 200 fathoms. The Snailbeach Mine is on the lands of the Marquis of Bath and the Earl of Tankerville.

Immediately adjoining Snailbeach, on the south-west and south, are the lands of the CENTRAL SNAILBEACH COMPANY. The old workings belonging to this company are in the valley, on the direction of the Snailbeach main vein, the rich courses of ore connected with which must ultimately be intersected here, although the accomplishment of this task has been a matter of greater time and capital than could have been originally expected. Besides these old workings, the Central Company have succeeded in acquiring, on terms so advantageous that they may be considered almost nominal, an extensive piece of mineral ground adjoining Snailbeach on the south, and containing all the parallel lodes adjacent to that mine. This company having recently found it necessary to strengthen its position by increasing its capital, the result has been temporarily to depress its shares. No one, however, who knows anything of the district, and the relations of this mine and Great Snailbeach, will be for a moment shaken in their faith by such temporary causes. Anyone who is inclined to be so should bear in mind that the Minera Company raised three capitals before they succeeded in achieving the object sought, which was very similar in every respect to the work to be accomplished at Central Snailbeach. South of Central Snailbeach Mine, and on the same parallel of ground as compared with the Stiperstones, we come to the NEW VENTURE and OVEN PIPE MINES—the former being close under the Stiperstones, and the latter in the valley. Some years ago a fine bunch of lead ore was found near the surface at New Venture, which gave profitable returns, amounting to about 40,000£.; but, strange to say, the mine has not since been vigorously prosecuted, and is now unworked, although a large value is placed upon it. The Oven Pipe Mine is one of the oldest in the district, having been worked by means of the famous boat level some generations back. It is now worked by one individual—Mr. Heywood Jones; and on a comparatively small scale of working is yielding a profit of from 400£. to 600£. per month. J. R. R. KEANE.

Bridgewater Chambers, Brown-street, Manchester.

HISTORY OF MINING—No. VIII.

SIR.—In my last letter I pointed out various fields of mineral treasure in Western and Northern Europe, and will now, with your permission, resume the subject. The first country to which I referred was Spain, as still rich in silver, although she has been the great producer of that metal from remote antiquity, until her possessions in Mexico enabled her to add to her own treasures from that country, and to the silver of the world. The testimony of the ancients to the mineral riches of Spain is various and decisive. Dr. Englehardt, in a paper recently published, observed:—

"Spain, as is well known, was colonised by the Phoenicians, and it is, therefore, probable that they worked the first mines in the country. These mines became soon, if we may trust the annals of the old historians, the most productive of ancient times."

Diodorus testifies to the truth of Englehardt's observations thus:—

"The mountains (of Spain) were covered with thick woods, which being set on fire by shepherds, or by lightning, burned for a long time. This caused the mineral to melt, in consequence whereof the pure silver ran down into the valleys like a stream of water."

Pliny, referring to the Iberian peninsula, remarks:—

"Some have related that the Asturias, Galicia, and Lusitanis (Portugal) furnished large quantities of gold annually; but the Asturias supplied the most, nor in any part (any other) of the world during so many ages has so great a quantity been obtained. In every species of gold there is some silver, in some one-tenth, in others one-ninth, and in others, again, one-eighth."

The same author, in another passage says:—

"Silver is found in all the Roman provinces, but the best in Spain, and that in barren and wild soil, even in the mountains; and whenever one mine is found another is discovered not far from it."

The silver mines near the city of New Carthage yielded to the Romans an average daily product of 24,000 drachms, and employed constantly an average number of men amounting to 40,000. The working of the ancient Spanish mines is associated historically with one of the saddest facts, and one most fruitful in events—the African slave trade. At first the conquerors employed the Iberian people to work the mines, and treated them in the same way as they had treated the ancient Britons in Cardiganshire and elsewhere in Wales, with brutal severity and oppression. The ancient Spaniards were, by this tyranny reduced in numbers to such a degree that their task-masters sought for a stronger and more toil-enduring people, and brought them from Africa. Strabo relates how a certain adventurer, who possessed a fortified place in Sicilia, first organised a company of pirates, and was quickly followed by other men of like character and enterprise, who bought, or reduced to slavery, the unfortunate beings, whom they sold to the Romans and others.

According to the testimony of this writer, silver was worked in England at a very early period. Dr. Englehardt observes:—

"It is uncertain whether England produced any considerable quantity of gold in very ancient times. The fact that the Romans, when they first came to this country found its inhabitants in possession of gold and coin seems to indicate that at least some gold was found there."

* * * Gaul, on the contrary, must have yielded far more of the noble metals in ancient times, since Julius Caesar found the natives possessed of great wealth, and that country in the time of Augustus paid considerable quantities of gold, and especially silver, into the Roman Treasury. Indeed it is obvious that the vast treasure in metals, and especially in the precious metals, possessed by the Romans was drained from Western Europe, both by sweeping away what was in circulation and by compelling the natives of those countries, as in Spain, Portugal, and Britain, to work as slaves in the mines. The decline of the Roman power was followed by a decrease in mining, and consequently in the amount of metallic treasures possessed by men. The people who wrought in the mines, rendering only a forced labour, soon rebelled, and the works were permitted to fall into ruin. The age immediately following the fall of Rome produced but little gold, but it is difficult to predicate anything of quantities or localities, so little information do we possess on mining matters from the fall of Rome to the eighth century. During the middle ages Western Europe produced gold and silver, as well as other valuable metals. Spain yielded large quantities of both gold and silver to its Arabian conquerors, for Cordoue informs us that the Arabian Viceroy, Abdallah, sent to the Caliph 400 lbs. weight of virgin gold and 21,000 lbs. weight of silver,

* * * The mining for gold and silver which existed in Spain was a great source of wealth to the Arabs. They employed a large number of workmen, and extracted great quantities of those metals."

It may be remarked, *en passant*, that the chief mines of the Arabs were in the province of Jaen, where even now 500 shafts may be seen in the hills.

The British Isles yielded more mineral wealth at that period than is generally allowed by historians, or supposed by the present inhabitants. Dr. Englehardt says:—

"In Scotland during the middle ages gold was obtained by washing the sand of several rivers, but we have no historical evidence, as far as I am informed, that the quantity of gold produced by Great Britain and Ireland was large."

During the reign of Elizabeth, however, a great portion of the gold coinage was made from metal raised in the Leadhill district, Scotland, in the vicinity of the Cumberland lakes, in the county of Wicklow, Ireland, and in smaller amounts obtained in other parts of the British Isles. But from the time when the plunder was effected by the Romans to the discovery of America, gold and silver were scarce in Great Britain and France, so that the annual production in both countries must have been very small, and the abrasion, and loss in other forms, very great. But during a portion of the middle ages France added greatly to the stock of the precious metals extant in Europe. In Ireland gold was found in much larger quantities previous to the Anglo-Norman invasion than after that event. The Danish invasion, however, interrupted the civilisation of Ireland in this as in every other respect, the invaders being utterly barbarous.

From the facts which I have adduced in this and previous letters as to what Western Europe has been in reference to mining from the period the Phoenicians worked the silver mines of the Iberian peninsula, extracted gold in Ireland, and traded with the Cornwall Britons for tin, to the time in which we now live, and "work the unreluctant earth," it is reasonable to infer that this part of the world is richer in this description of treasure than is generally supposed, and that modern enterprise should be directed to fresh and wide discovery in all the metals and other mining products which Western Europe has produced. Nothing else could give so powerful an impulse to our wealth and industry as a nation. Mining is the chief fountain from which commerce springs, and may be suitably termed the parent of trade, for without metals neither the arts, manufactures, nor agriculture could advance one step, or maintain their present position, but civilisation would recede in every form.

Gresham House, London.

THOMAS SPARGO.

THE MINERAL RIGHTS ASSOCIATION.

SIR.—The resolution that was unanimously agreed to by the shareholders of the Mineral Rights Association, at their last meeting, that the company should be voluntarily wound-up, having this day been confirmed unanimously, and liquidators appointed to carry out the same, I feel desirous to mention, through the medium of your extensively circulated Journal, that it is not my intention to take a seat at the board of the Mining Association (Limited), a company that it is proposed to establish on the basis of and with the same objects as those of the late Mineral Rights Association, as I find attention to the duties of a director not only a source of great anxiety, but interfering most seriously with my many other business engagements. I am requested by my late colleagues, Mr. C. J. Bunyon and Captain Watson, R.N., to state that for similar reasons they do not propose to join the direction of the proposed Mining Association.

We consider it our duty towards absent shareholders of the late company to thus publicly state the position we intend to take with reference to the proposed "Mining Association." We are, however, acting in this matter in perfect good feeling, and wish it every success.—London, Aug. 15.

PARKE PITTAR.

CHIVERTON MOOR MINE—ITS PROSPECTS.

SIR.—It is interesting to observe the attempts that have been made of late to depreciate this fine property, with the object of buying the shares after they have been knocked down to a price far below that which the position and prospects justify. The present moment affords ample opportunity of seeing that such attempts have been but too successfully carried out. All kinds of sluttish rumours are circulated; for the last week or two, for example, it has been studiously "noised" that a very heavy call would be required at the meeting, whereas it is a fact that a very small call will be required to carry on the mine in full operation, and place the accounts in a perfectly healthy position. Then it was stated the water had been in the mine, from an accident, for a week or more, which would cause much delay, and affect the returns, &c. It turns out that it was but a delay of a few hours, during the ordinary operation of putting in a plunger. Now, these and a hundred other groundless reports do not reflect much credit on their originators, but, while they seriously concern those who may be jobbing in the shares, can be viewed with complacency by the bona fide shareholders, who have their shares in their own names, and intend to keep them till their property is as valuable as West Chiverton, or still more so. The majority of these know too well the great prospective value of their property to be frightened out of their shares; and anyone who knows the mine, and appreciates its splendid position with reference to its rich neighbour, can easily see from the agent's report that, "through evil and good report," a steady, and by no means slow, progress is being made towards that point of triumph which it is well known must inevitably be reached, and cannot be far distant. To those among the present (or intending) shareholders who have not yet seen the set, I say, take advantage of this lovely weather and the touring season to make a trip westward, and make a point of visiting Chiverton Moor. Those who do so will at once see and appreciate the immense value of the position of the property, and will never regret their trouble, but will hold "for the mine," and shut their eyes and ears to all evil reports till the time arrives for opening their purses to receive their dividends. Let those who are so wise as to go, take a walk over West Chiverton, for it is a sight to see, and helps to show what may be looked for at the adjoining property of Chiverton Moor.

ONE WHO HAS SEEN IT.

IS WELSH MINING A GENUINE SPECULATION?

SIR.—I notice weekly reports showing that extraordinary profits are to be made from working Welsh mines. This caused me to analyse them as a test. I believe no man ever worked harder than "M. F." to keep the Welsh flag unfurled and openly exposed to the breeze; but, with all his hard struggling, it is for ever inclined to entwine round its staff, as though it wanted to hide its coat-of-arms. As a forlorn hope, Welsh miners try to claim six mines as paying dividends; but I say two of them are only to be compared to the figure of nine wanting the tail. Then there are four left—Cwm Erfin, Cwmystwyth, East Darren, and Llanbrynmair, paying, as a whole, per share about 86£. per year; that is if a person holds one share in each mine, and these shares now sell at no price. All the dividend mines in Wales do not pay 30,000£. a-year—not enough to pay the directors, brokers, and agents for all the mines worked. Then there are over a hundred mines making calls. Someone showed, a few months since, that Cornish shareholders pay 3d. in calls to get 1d. dividend. In that case I think Welsh mines must pay 4d. to get back 1d. This is not a very encouraging lottery. Can any fair-thinking man come to the conclusion that it is a paying investment? If so, let him try his hand at it.

W. ENNOR.

N.B.—Having surveyed Welsh slate quarries for over fifty years, I beg to say that Mr. J. Kellow is a practical quarry worker. His letters in the Journal on working slate quarries are genuine, and to the point.

N. E.

ST. JOHN DEL REY GOLD MINING COMPANY,

MORRO VELHO, BRAZIL.

The annual holiday kindly granted by the directors of the company was held on St. John's Day, June 24, and passed off to the entire satisfaction of every one. A committee, consisting of officers and men, had been formed some time before, to arrange sports for the day's amusement, all of whom entered heartily into the work they had undertaken. Thanks to the kindness of Mr. Gordon, the superintendent, who placed at the disposal of the committee a sufficient force, the camp above the store was cleared and enclosed, and a number of tents erected, where every requisite in the way of refreshments could be obtained. The proceedings commenced at 9 A.M., with a salute of 19 guns, during the firing of which the band, attached to the establishment assembled at the Casa Grande, and marched in procession to the ground, where the sports commenced, and were sustained without intermission till

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exciting and keenly contested; the whole, nevertheless, was kept up with great spirit. The Brazilians in their turn did full justice to the liberality of Mr. Gordon in competing for the prizes he kindly offered; after which the blacks entered an appearance for a series of races, the prizes consisting of dresses, shawls, caps, fancy pipes, &c., the competitors, including men, boys, women, and girls, who were greatly pleased, and not unjustly proud of their part in the day's demonstration, as their running was generally considered swifter than any that had preceded. List of English races.—Flat race, 1st prize, J. Tyack; 2d, J. Eslick; 3d, F. Trebilcock.—Hurdle race, 1st prize, J. Moyle; 2d, T. Rafferty; 3d, G. Moyle.—Race backwards, 1st prize, W. Weir; 2d, J. M. A. Gordon; 3d, J. Reynolds.—Race blindfolded, 1st prize, W. Trenwith, Jun.; 2d, F. Trebilcock.—Sack race, 1st prize, S. Tyack; 2d, W. Trenwith, Jun.; 3d, T. Andrew.—Donkey race, 1st prize, T. Robins; 2d, J. Paul; 3d, R. C. Bawden.

To vary the attractions of the day, "Aunt Sally" was erected at a convenient corner of the campo, and although the prize was only three copper pennies it was vigorously contended for until her exchequer was exhausted. The entertainment of the evening was held in the store, which had been previously cleared and decorated, commencing at half-past six with a dance by the free borers, and followed by an exhibition of "Prestidigitation," by Senior André Fellipe Talon, who sustained the interest of those present for about an hour, exhibiting some marvellous feats of sleight of hand, the performance of which was greeted with a round of well-merited applause. On the termination of which an abundant supply of tea and coffee and cake was handed round, during which time the Brazilian band favoured the company with some excellent music. When the wants of the inner man were satisfied, a concert of vocal and instrumental music, jointly undertaken by several of the English employees and the Brazilian band of the village of Congonhas—all of whom acquitted themselves with great credit—took place. But the proceeding of the day could not be brought to a close more appropriately than by giving vent to our feelings as was done by the whole of the company joining in "God save the Queen."

A magnificent display of fireworks was then exhibited under the superintendence of Senior Padre Francisco Petralha, lasting about half-an-hour, at the conclusion of which the company dispersed, much gratified with the festa of 1867. It is a pleasant duty to record that on this occasion no irregularity or excess on the part of anyone concerned was observed. It should not be lost sight of that owing to the foresight of Mr. Gordon and the co-operation of his staff, the works of the company still continued their productive results, under the charge of a small force.

FOREIGN MINING AND METALLURGY.

The annexed statement shows the movement of coal over the old concessions of the Northern of France Railway during the ten years ending 1866. In consequence of the development which coal mining has acquired in the Pas-de-Calais, and also in consequence of the increased deliveries from Belgium, this branch of the company's business has largely extended during the ten years:—

Year.	Tons conveyed.	Receipts.
1857	1,032,315	£285,226
1858	1,533,136	365,184
1859	1,693,186	368,850
1860	1,875,343	410,243
1861	1,907,832	387,129
1862	2,064,058	376,328
1863	2,157,272	379,409
1864	2,577,760	459,295
1865	2,984,751	541,688
1866	3,331,239	569,694

It will be seen that the tonnage of coal carried has made an incessant and unchecked progress during the ten years, but that the receipts from this source have displayed some fluctuations; in fact, they have scarcely doubled during the decade, while the coal movement increased more than three-fold. It appears that in the two months ending July 10 this year the Northern of France Railway ordered 22 tons of Vignoles rails, at 7*l.* 8*s.* per ton (in warehouses at the works), from M. Hamoïr, of Maubeuge; 6*l.* 0*s.* tons of Bessemer steel rails, at 14*l.* 3*s.* 4*d.* per ton (delivered at La Chapelle), from the Terre-Noire Works; and 70 tons of switch bolts, at 1*l.* 15*s.* 2*d.* per ton, to be delivered at Valenciennes, and ordered from M. Vankalck, of St. Waast. The Eastern of France Railway Company has ordered 300 tons of switch bolts from the house of Wendel; the terms have not transpired. The production of Bessemer steel in France has acquired a remarkable development of late years. In 1863 only three establishments devoted themselves to the production of this article, viz.—the Terre-Noire Company, the Impy St. Seurin Company, and the house of Petit, Gaudet, and Co. The whole production of the year amounted to only 1856 tons. In 1864 the houses of Menans and De Dietrich increased the number of establishments producing the article, and the total production of the year rose to 6750 tons. Finally, in 1865, the Châtillon and Commentary Company applied itself to the production of Bessemer steel; and the make of the six establishments which have thus become producers amounted last year to 10,790 tons. It is expected that the production will this year experience a considerable further increase, in consequence of the numerous and important orders which have been given out this year for Bessemer steel rails by the various French railway companies. These orders continue to present themselves on the French markets, but the general condition of French siderurgical industry continues indifferent. In the Haute-Marne prices are feebly supported; rolled iron, coke-made, has brought 7*l.* 8*s.* per ton; mixed ditto, 8*l.* 8*s.* per ton; and iron from charcoal-made pig, 8*l.* 8*s.* per ton. On the Paris market coke-made iron has sold at 7*l.* 4*s.* Coke-made pig made in the Haute-Marne has been sold this week at 8*l.* 1*s.* 8*d.* per ton on trucks, at St. Dizier. In the Moselle group the stock of pig is increasing; no new affairs have been concluded, and attention is devoted to the execution of old contracts. The production of merchants' iron in this group has been reduced more than 10 per cent.; this reduction has had, however, no influence on prices, which continue to drop. The state of coal-mining industry in the Pas-de-Calais continues favourable, and notwithstanding the period of the year at which we have arrived, prices are firmly maintained. The crop of beetroot promises well, and this is one of the principal causes of the steadiness observable in quotations. The sugar manufacturers had to pay dearly last year for their supplies of coal, and it is to guard against this eventuality this year that they are now forwarding their orders. In consequence of this state of things, deliveries are active as well by water as by land, and the approaching opening of the section from Basses à Loo, on the Béthune and Lille Railway, will only increase this activity by bringing into more direct and rapid communication the centres of production and the centres of consumption. Coke on the St. Dizier market is offered at the following rates:—Washed coke, Agrape, 17*l.* 8*s.* 1*d.*; Esconflaux, 17*l.* 8*s.*; Denain, 17*l.* 6*s.* 9*d.*; and Donal, 17*l.* 6*s.* 9*d.* per ton. Washed coke from these sources presents a reduction of 2*l.* 6*s.* per ton on these prices, which are applicable to deliveries by railway; for deliveries by water there is also a reduction of about 2*l.* 6*s.* per ton on each of these qualities. The Rive-de-Gier Collieries Company will pay, Oct. 16, a dividend of 3*l.* 3*s.* per share on account of the first half of 1864. The Mennecy Colliery Company commenced the payment on Thursday (Aug. 15) of a dividend of 3*l.* 4*s.* per share as the distribution for the past exercise. Meetings are announced as follows:—Mouzaia Mines Company, Aug. 31, at Paris; and Longterne Ferrand Colliery Company, Sept. 12, at Elouges.

It appears that the net profits realised last year by the Montigny-sur-Sambre Blast-Furnaces and Rolling Mills Company amounted to 660*l.*, of which 480*l.* was attributed to the council of administration and the committee of surveillance. The actual balance of profit available for dividend was, then, only 480*l.* A sum of 798*l.* was applied last year to various reductions of capital and 28*l.* was also added to the reserve fund, which amounted at the close of 1866 to 989*l.* The company expended during the exercise 1866-67 a sum of 835*l.* for various operations in connection with the extension and transformation of works. However this may be, the general result of last year's operations was very insignificant; it must be attributed to the difficulties against which Belgian siderurgical industry has been long struggling, such as the high price of combustible, and foreign competition. Thus, in 1866 iron was 25 per cent. cheaper than in 1855, whilst the price of coal had advanced 10 per cent., comparing the two years together. The Montigny-sur-Sambre possesses an effective share capital of 120,000*l.*, and it has a consolidated debt of 52,500*l.* in obligations, and a floating debt of 69,772*l.* The shares, which are of the nominal value of 2*l.* each, are quoted on the Brussels bourse at 3*l.* 1*s.* each. The Ougrée Ironworks Company is now paying a dividend of 1*l.* per share. Meetings are announced as follows:—Val-Benoit Iron Manufacturing Company, Aug. 27, at the Val-Benoit; Dutch Company, for the working of Gasworks in Spain, Aug. 28, at Rotterdam; Augsburg Company, for the construction of Machinery, Aug. 29, at Augsburg.

An adjudication has just taken place at La Haye of two lots of rails, of 5000 tons each, and a lot of bolts (100 tons). The rails were required for the Dutch State Railways. The following tenders were delivered:—Cockerill Company, Seraing, one lot at 44*l.* 0*s.* 2*d.* fl., or 8*l.* 8*s.* per ton; and the other lot at 44*l.* 7*s.* fl., or 8*l.* 7*s.* per ton. MM. De Dorlodot Frères, Acoz, one lot at 46*l.* 7*s.* fl., or 9*l.* 3*s.* per ton; and the other lot at 42*l.* 5*s.* fl., or 8*l.* 1*s.* per ton. Messrs. Hopkins, Gilkes, and Co., Middlebrough-on-Tees, one lot at 40*l.* 6*s.* 9*d.* fl., or 8*l.* 1*s.* per ton; and the other lot at 40*l.* 9*s.* fl., or 8*l.* 2*s.* per ton. MM. De Wendel, of Hayange, the second lot at 47*l.* 9*s.* fl., or 9*l.* 3*s.* per ton. The first lot of rails was let to Messrs. Hopkins, Gilkes, and Co. As regards the second lot, it will have been observed that tenders were made on the same terms by Messrs. Hopkins, Gilkes, and Co., and the Teesside Ironworks Company. The contract for the lots was let to M. Doppeler Frères, Maastricht. It is stated that several glass-making establishments have entered upon contracts with Ruhr Collieries, notwithstanding the fall which has taken place in Belgian coal. It is the quantity of the Ruhr coal which has led to the conclusion of these transactions. At the same time, it should be understood that the glassworks are still buying considerable quantities of coal in the Mons basin, while those glassworks which receive Ruhr coal employ one-third from Mons, one-third from Charleroi, and one-third from Germany. Upon the whole, it may be said that no change has occurred in the Belgian coal trade; the stock continues important, and the extraction is very restricted; no variation of importance is expected to occur in prices during the dead season. Belgian metallurgical industry presents no improvement. Several establishments want orders, and prices are much depreciated; plates alone give rise to some transactions.

The Havre copper market has been feeble, and the article elsewhere gives rise to very little movement; the sale prices vary from 69*l.* 8*s.* to 69*l.* 10*s.* per ton for disposable, and to be delivered. Affairs have been quiet, and prices have been almost nominal at Paris; English bars made 80*l.*; Lake Superior, 80*l.*; rough Chilean, 70*l.* to 70*l.* 1*s.*; and Corocoro mineral, 75*l.* 10*s.* per ton. At Marcellin some affairs of little importance are reported, Toka making 75*l.*; Spanish, 74*l.*; refined Chilean and Peruvian, 80*l.*; rolled red copper for sheathing, 88*l.*; yellow ditto, 82*l.* per ton. On the Berlin and Cologne markets the demand has been insignificant. At Hamburg the article remains neglected, although prices are the turn in favour of purchasers. The Spanish Government has been authorised to alienate the important copper mines

of Rio Tinto. There has been less animation of late upon the Dutch markets. At Amsterdam and Rotterdam, however, Banca has maintained itself tolerably firm at 52*l.* 4*s.*, and Billiton at 52*l.*. Attention begins to be directed to the approaching public sale of the Dutch Society of Commerce; and in this regard it is interesting to note the present state of the stock, and the total deliveries of Banca tin on the Dutch market during the first seven months of the last three years. Statistics collected on this head present the following results:—

	1865.	1866.	1867.
January	Ingots 4,230	11,930	10,550
February	4,987	7,959	6,193
March	9,640	17,236	6,519
April	5,650	24,192	12,568
May	3,890	22,739	9,884
June	5,910	10,579	6,000
July	27,297	4,675	9,367
Total	61,604	99,230	62,081

The stock on sales July 31, 1867, was 138,605 ingots, as compared with 109,375 ingots, July 31, 1866, and 30,700 ingots July 31, 1865. The unsold stock of the Society of Commerce, July 31, 1867, was 58,369 ingots, as compared with 117,449 ingots, July 31, 1866, and 26,460 ingots, July 31, 1865. The quantity under sail and now expected by the Society of Commerce amounts to 14,700 ingots. It appears, then, that the quantities which will be offered for public sale will be about 70,000 ingots. The article maintains a tolerably good position on the German markets, and the Paris market has been quiet at previous rates; Banca has made 9*l.*; Straits, 9*l.*; and English, 9*l.* per ton. As regards lead, the information received from the producing centres in January is more satisfactory; the stock at the works is inconsiderable, while the requirements of business have become more pressing. At Paris, French and Spanish leads maintain themselves, as hitherto, at 19*l.* 1*s.* per ton. In order to meet the pressing wants of the Spanish Treasury, the Spanish Government has been authorised to alienate or lease the State Lead Mines at Linares. Zinc maintains itself at about previous rates. On the Hamburg market, holders maintain prices more freely. The Paris zinc market has been very quiet; rough Silesian remains quoted at 21*l.* 4*s.* per ton.

Meetings of Mining Companies.

THE SHROPSHIRE COPPER COMPANY.

A few days since the directors of this company, accompanied by some of the largest shareholders, several practical agents, and others interested in the successful development of the mineral resources of this important district, paid a visit to the now celebrated Westcott Mine, the property of the Shropshire Copper Company. As described by an eminent practical authority, the hill which constitutes the chief mining ground, and which is composed of criptalline rock, is very favourable to copper ore formations, and the holding down to a good depth, is traversed by seven or eight lodes, if not more, presenting fully approvable mineralogical characteristics and conditions. Under the high ground, and more particularly below the present adit level, the lodes will make regular, continuous, and profitably productive courses of ore. Depend on it, he says, Westcott possesses a power of production which, on being properly brought into action, will not disappoint expectations, but, on the contrary, be sure to realise great, early, and lasting success.

Situated in the same districts as such famed mines as the Old Bog and Snailbeach, the latter of which has continued to return for something like ninety years a net annual profit of not less than 20,000*l.*, Westcott has already established for itself an exceptional fame, by reason of its unusually rich character of ore, which not only does not deteriorate in quality as the operations are extended, but increases in quantity more than proportionate with the progress of development. Although the property has been in possession of the Shropshire Copper Company for a period not exceeding two years, it is amply provided with adequate machinery, plant, &c., while the underground operations are conducted upon an extensive scale, considering the comparatively short time that has elapsed since the formation of the company. Every detail has been efficiently carried out by Capt. John Kitto (the manager) with the utmost care and attention to all the requirements of a progressive and progressive mine.

Unfortunately, by some misadventure, the deputation were deprived of the presence of several influential gentlemen from Preston, Dudley, Liverpool, and other places—all of whom had promised to attend, being largely interested in the success of the Westcott and other Shropshire mines. Among those present, however, may be mentioned Mr. Robert Curwen (merchant), Liverpool; Mr. Joshua Prouse (shipowner), Liverpool; Mr. James Humby (shipowner), Liverpool; Mr. Henry Whittle (Whittle and Co.), Liverpool; Mr. E. H. Lowe (director of the Shropshire Lead Company), Shrewsbury; Capt. J. Kitto (manager of the mine), Shrewsbury; Mr. S. Harley Kough (the solicitor), Shrewsbury; Capt. James Nancarrow (manager of the Stiperstones Mines, Shropshire); Capt. Pascoe, &c.

After the visit to the mine, which occupied the greater part of the day, a meeting was held, for the purpose of eliciting the opinions of the "practicals" and others who had formed the deputation as to the probabilities of this promising young mine, attesting by permanently profitable results the tangible evidences it is at present yielding.

Mr. ROBERT CURWEN was called to the chair. He expressed his entire satisfaction with the speedy, efficient, and economic manner in which every detail had been carried out. He need hardly say that he represented the views of all who had that day visited the Westcott Mine, when he stated that he was more than satisfied with the dispatch with which the machinery had been successfully completed, and now in such an efficient working order, reflecting the greatest credit upon the zeal and energy of Capt. John Kitto, their manager; and as to the blocks of rich copper ore—that which richer could not be desired—that were brought out of the mine in their presence, and which upon breaking only proved to be of a richer quality than previously indicated—those, all would agree, were unquestionably the most substantial guarantees that any mine could afford as to its intrinsic mineral value. All he could say was that, however much he had previously been satisfied as to the capabilities of Westcott, what had now been entirely dispelled, for no miner—however prejudiced—would be bold enough to assert that under those carbones—the richest, he had no hesitation in saying, that had ever been produced by any mine in the United Kingdom—considerable and productive deposits of copper ore would not be found. (Hear, hear.) They had already opened the mine a depth of something like 22 fms. below adit, and had driven 12 fms. west; and he was glad to be in a position to state that the deeper the exploration was extended the more productive became the character of the ore, and the continuance of the drivage in either direction, whether eastward or westward, proved that the deposits were permanent in character and rich in quality. One of the important features in connection with the development of their property was the exceptionally rich quality of its ores—Indeed, so strikingly was this the case that, upon reference to the *Mining Journal*, he found that of the 300 mines quoted, in neither was the quality of the ore in any way to be compared with that of Westcott. (Hear, hear.) He wished it to be distinctly understood that that was not a mere statement of his own, for it was based upon the statistical information published in the *Mining Journal*; but he would go further still, and compare the Westcott ore with that produced in Chile and Australia. He found by the *Mining Journal* of July 14 that of all the ores sold by the foreign mines in no one single instance was the quality equal to that of Westcott. (Hear, hear.) On looking over the *Mining Journal* this morning, he observed that while the average percentage of the ore of the Cornish mines was in every case considerably below that of Westcott, the average price of foreign ore sold at Swansea was 9*l.* 1*s.* 9*d.* per ton, and that the average percentage was only 13 per cent. Now, what gentlemen think when he informed them that the ores now being yielded by their Shropshire mine was 88 per cent., and that the general average far exceeded any foreign ore brought into the port of Swansea? (Hear, hear.) He had no doubt that statement would be published to the world, and, probably, he would hereafter be called upon to substantiate it; but, as he had already said, he made it without fear of contradiction, taking the *Mining Journal* as his authority. (Hear, hear.) When this company was established it was contemplated that 4000*l.* would be sufficient to prove the mine, and that the expenditure would be extended over a period of something like two or three years; but the prospects so greatly improved, and remembering the well-attested mining proverb, that "time is money," they had judiciously and wisely, he thought, expended 8000*l.* in not more than 18 months. What was the result? Why, the mine was provided with a powerful steam-engine, capable of taking them down to a depth of 100 or 150 fms.; water-wheels had been erected, dressing-floors had been laid out, and were now being rapidly extended, precipitating pans prepared, and, above all, the underground operations were being rapidly and extensively prosecuted. (Hear, hear.) All this had been done in the short space of 18 months, and, moreover, the mine was now in a position to produce 50 or 60 tons of copper per month—in fact, from the present time progressive profits should be realised. (Hear, hear.) He did not know another instance—and he was not without considerable experience—in which so much work had been successfully completed and such results realised in so short a period as 18 months, and in which such prospects existed of immediately entering the Dividend List. As the mine had been proved to contain at least seven well-defined lodes, all of which seemed likely to prove more productive as development extended, he felt that the shareholders had substantial grounds for hoping that Westcott would be as permanently productive of copper as its celebrated neighbour Snailbeach had been for nearly a century productive of lead, in which case the shares in Westcott would, like those in Snailbeach, be handed down to posterity as a valuable heirloom. (Hear, hear.)

they were satisfied with the way in which the affairs of the company had been managed. He need hardly say that he regretted they had gone on so long without dividends, but still, when they looked at the report, he felt satisfied that no one would think but that the best had been done under the circumstances, considering the low price of copper. Looking at the economic management, and the small cost of raising the ore, it was evident that the manager and local committee had done their duty, and it was pleasing to know that they had sufficient money in hand in the colony to meet all the debts contracted in this country, but if there were any particular point that required amplification he should be glad to afford all information necessary, the opinion of the directors being that what they knew should be communicated to their constituency. He moved that the report and balance-sheet be received and adopted.—Dr. WOTTON seconded the motion. The motion was put and carried unanimously.

Mr. ESSEX said he had great pleasure in proposing the re-election of Mr. Cyrus Legg as director. From his well-known character and high commercial position it was impossible to find a better man. Shareholders had but little idea of the interest their worthy Chairman had taken in the conduct of the affairs of the company, nor of what inestimable service he had rendered, especially during the difficult matters with which they had to deal. Mr. Cyrus Legg's connection with some of the largest establishments in London, and his long connection with the present company, were sufficient guarantees that he was one of the best men that could possibly be selected to promote the interest of the enterprise.—Mr. JONES had much pleasure in seconding the proposition; which was put and carried unanimously.

The CHAIRMAN thanked the shareholders for this renewed mark of their confidence, and assured them that so long as he retained a seat upon the board he would endeavour to act with honour and integrity, for he had no private ends to serve; and nothing would afford him greater pleasure than to be able to show that the directors were in a position to give the shareholders some return for their outlay, and that they had entered the Dividend List of Australian Mines. He had only to state that he had much pleasure in proposing the re-election of Dr. Legg as director. Dr. Wotton had been of very great assistance in promoting the interests of the shareholders and the welfare of the company.

Mr. ELLIOTT seconded the proposition, which was carried unanimously. Mr. WOTTON said he duly appreciated the compliment just paid him. He was connected with the original formation of the company, and had never sold a share, but was more than ever convinced that the Worthing Mining Company would yet prove a permanent success.

Upon the proposal of Mr. MARSHALL, seconded by Mr. VIDLER, the retiring directors (Messrs. Elkin and Ehrensparger) were re-appointed auditors.

Mr. ESSEX had much pleasure in proposing that the thanks of the meeting be given to Mr. Alfred Hallett for his untiring perseverance in the prosecution of the works at the mine, and for his unwearied efforts to make the mine remunerative, and that the directors be requested to communicate the same to him; and that the thanks of the meeting be also given to the colonial committee.

Mr. WOTTON had great pleasure in seconding the proposition. He knew the untiring zeal that Mr. Alfred Hallett had displayed in endeavouring to make this company a success, and although up to the present time the shareholders had not received any return, owing to the unprecedentedly low price of copper, he (Dr. Wotton) believed that Mr. Alfred Hallett would soon be rewarded with success, in which each shareholder must participate.

The resolution was put, and carried unanimously.

Mr. ESSEX then proposed that the best thanks of the meeting be given to Capt. Prisk and the other officers of the mine. As far as Capt. Prisk was concerned, Mr. Esse had only quote, with regard to him, the opinion of the local committee, who, in their report, state that "before closing, we would wish to place on record the unwearied efforts of Capt. Prisk to make the mine remunerative, and to bear testimony to his ability as a practical miner, as shown in the cost per ton of raising and returning the ore." That fully exemplified what the man desired to do—to bring the mine into a paying position.

Mr. WOTTON seconded the proposition.

The CHAIRMAN put the motion, which was carried unanimously.

A SHAREHOLDER asked if the average cost of raising and smelting the ore was more or less than that of other Australian mines?

The CHAIRMAN said he could not more satisfactorily reply to that question than to refer to the report of the colonial committee, in which they state that the advantage of our system is shown by comparing results. Thus: Bremer cost, 6*t*. 2*s*, 10*p* per cent., value 7*t*. 9*s*; Moonta, 19 per cent., 13*t*. 9*s*. 2*d*; Burra, 15*t*. 11*s*. 8*d*. Moonta shows profit on 19 per cent., 3*t*. 19*s*. 8*d*. per ton; we should show 6*t*. 9*s*. difference, in our favour 2*t*. 9*s*. 4*d*. The Burra shows loss of 2*t*. 2*s*. 10*p* per cent., 3*t*. 16*s*. 10*d*. per ton; we should show profit 9*t*. 11*s*. 6*d*; difference in our favour, 12*t*. 8*s*. 4*d*. per ton. These figures give you an actual comparison, as the circumstances were exactly similar, but allowance must be made for the Burra for extra carriage and extra cost of fuel; whilst the Moonta is more favourably situated, being only 12 miles from a shipping port, and possessing the advantage of tramway and rich lodes." If (continued the Chairman) could sell their copper at not more than 100*t*, no shareholder would object to his contention with the Worthing Company.

Mr. ARCHER said the shareholders had the greatest reason to be satisfied with the manner in which the mine was being worked. He believed it was the only one in Australia that had shown a favourable result during the past year, with the exception of Moonta. He had much pleasure in proposing that the best thanks of the shareholders be given to the directors for their continued attention to the interests of the company.—Mr. JEGON seconded the proposition, which was put and carried unanimously.

The CHAIRMAN, having appropriately acknowledged the vote, said that when they found that the Burra Burra Mine, with its 20 per cent. ore, was obliged to submit to the pressure of the times, it could not fail to be satisfactory to know that their Bremer Mine had paid its way, and given a profit; at any rate, there was a great deal of credit due to some one.

Mr. ELLIOTT (a director) thought the shareholders' attention should be drawn to the fact that the land alone belonging to the company must eventually become of considerable value. As to Wheal Maria, a gentleman of considerable influence in Adelaide had recently attended one of their board meetings, and the gentleman had stated that the Wheal Maria would turn out a second Burra Burra. That as soon as the company was in a position to pay dividends, they should appropriate a certain portion to the development of Wheal Maria; so that, in many respects, the Worthing Company had most encouraging prospects looking in the future.

A vote of thanks to the Chairman terminated the proceedings.

PRINCE OF WALES MINING COMPANY.

The quarterly general meeting of shareholders was held at the office of the company, St. Michael's House, Cornhill, on Tuesday, Mr. J. Y. WATSON, F.G.S., in the chair.

Mr. JEHU HITCHINS (the secretary) read the notice convening the meeting, and the minutes of the last were approved.

A statement of accounts was submitted, which showed a balance of assets over liabilities of 3548*t*. 11*s*. 1*d*. The profit on the three months' operations was 1670*t*.

The CHAIRMAN said he need not further advert to the accounts just submitted, than to state that it showed the actual position of the company at the present time. As the July cost was due next week, the amount, of course, had not been charged, nor, on the other hand, had the ore raised during the same month been credited.

Mr. W. MICHELL took exception to the accounts, upon the ground that there were four months' credit of ore against three months' costs.—Mr. DAUKES supposed, as the amount had been received, it must appear somewhere. At the last meeting the amount was only estimated; but as it had since been actually received, it now very properly appeared as cash.—Mr. JEHU HITCHINS did not remember that Mr. Michell called attention to the fact at the last meeting that there were then four months' costs against three months' returns. (Hear, hear.) The discontent now appeared to be that there was too much money in hand.

The CHAIRMAN said the accounts referred to by Mr. Michell was one of receipt expenditure since the last meeting, crediting all cash received, and debiting payments; and one month's ore, crediting as an asset at last meeting, was now brought in as cash: putting the three months' costs against the three months' returns, the profit realised was 1670*t*. He then read the following report:

*Aug.—We beg to hand you our report for the meeting on the 13th inst. Since the last general meeting Watson's shaft has been sunk 2*fms*. 3*ft*. below the 55 fm. level—ground favourable for sinking; trip-plat cut, and pent-house put in; also tramroad in the 55 fm. level, &c., complete. The 55 fm. level cross-cut north has been driven 3*fms*. 3*ft*. being now 8*fms*. 3*ft*. from shaft, and 16*fms*. north of main lode; and, as we are daily cutting an increase of water, the same being highly mineralised, and the strata very congenital for copper, we have every reason to believe when the lode is cut it will prove productive. The 55 fm. level east has been driven 9*fms*. 5*ft*. being now 45*fms*. east of cross-cut, with 8*ft*. driven north to intersect the north part of the lode, which is seen gone on 8*fms*. behind the present end; but so far nothing has been met with. The 45 west has been driven 4*fms*. 3*ft*. being now 22*fms*. 3*ft*. west of cross-cut, and 4*fms*. west of western cross-course; in the present end the lode is 8*ft*. wide, worth 10*t*. per fathom. The rise in back of the 45, west, between the two parts of western cross-course, is up 3*fms*.; the lode is 2*1/2* ft. wide, worth 10*t*. per fathom. We have four stope workings—One in the back of the 55 east, east of winze, by six men; lode worth 20*t*. per fathom. One in the back of the 55, west of winze, by six men; lode worth 20*t*. per fathom. One in the back of the 45 east by two men; lode worth 20*t*. per fathom. In conclusion, although the ends are not so rich as at the last meeting, we are still cutting out more ore than we are taking away. We sampled on Friday, July 26 (computed) 12*t*. tons, and have 50 tons now broken on the mine.—J. GIFFORD, F.G.S.*

*P.S.—The new air and whim shafts are down 3*1/2* fms. from surface, and we shall commence rising against it in the beginning of next week, and hope to communicate with it the 45 east in four months from this date.*

The CHAIRMAN stated that at the request of the committee, Capt. Gifford was present to answer any question, or to afford any further information that shareholders might desire.—Mr. WARD asked the produce of the last 132 tons of ore?—The CHAIRMAN said it was estimated to realise about 8*t*.

Mr. MICHELL wanted to know why the assay of the parcel of ore now for sale had not been published, or why the shareholders had not been allowed to see it? The CHAIRMAN stated that, so far as he knew, the letter containing the assay had been open at the office for the inspection of all who wished to see it; but the agent requested it might not be published, owing to the silver. Each bushel contained about 1*lb*. of silver to the ton of ore, but was about 1 per cent. less for copper.

Mr. CUELL asked if Captain Gifford could give any idea when the next level would be reached?—Capt. GIFFORD computed it would be reached in about four months from the present time.

Mr. PETER WATSON would like to know when the lode in the 45 fm. level was likely to be reached?—Capt. GIFFORD thought the lode would be reached in about six months hence.

Mr. MICHELL said the ground was very favourable for sinking.—Captain

GIFFORD said he wished to take this opportunity of stating that, notwithstanding all that had been intimated by certain parties, the mine was being worked efficiently, and that the ore was being taken away in the best and cheapest manner. Winzes were sunk, in order to facilitate the cutting out of the ground, and also for the purposes of ventilation. Now, when the winzes was sunk, and communicated with the 55, stoping was commenced. He defied contradiction to the statement that that was the best and cheaper mode to get away the ore.

Mr. WARD about three weeks since was upon the mine, when he saw Captain Gifford's son, with whose general intelligence and ability he was much pleased. The result of the enquiry induced him to come to the conclusion that the cutting of the north lode was one of the most important points in the mine.—Capt. GIFFORD considered there was a good chance of cutting it very good—it was a parallel lode.

Mr. PETER WATSON asked if it were true it had been cut?—Capt. GIFFORD said, some people seemed desirous that others should believe it had been cut, although it certainly was not the case. Some strings had been cut, but that was accounted for, coming from the surface. He further stated (replying to questions by Mr. Peter Watson) that at the present time they were discovering at least as much ore as was being taken away; and that taking the mine throughout they were driving on an average a little over 8 fms. per month.

Mr. PETER WATSON said a letter appeared in the *Mining Journal*, on June 15, in which attention was called to a London Circular, stating that the "remarks were disreputable." As the Circular referred to happened to be his, he would take the liberty of quoting the "disreputable remarks." They are as follows:—"I have again had this mine fully inspected, and as to the present mode of raising the ores, and so giving the present profits, my inspecting agent fully refers, I have no desire to publish his views, although, as he says, they are facts, and written in a perfectly disinterested spirit, and he suggests that two perfectly disinterested agents should be sent by anyone or all of the shareholders to see whether what he has said as to the present mode of working and reporting on the mine generally is not the truth. The valuations he puts on the different points are very different from those of the agent at the mine." The only purpose of those remarks was that disinterested agents should be employed to verify, or otherwise, the computations of their own agent.

Capt. GIFFORD said, in his estimation, the remarks were, at least, ungracious to say that the mine was not being fairly worked.

Mr. PETER WATSON asked the estimated value of the present reserves?

Capt. GIFFORD replied that they were worth between 18,000*t*. and 20,000*t*.

Mr. PETER WATSON said he did not wish to contradict that statement.

Capt. GIFFORD wished him to do so, and state the basis upon which the contradiction was made.

Mr. PETER WATSON would like to know if there was sufficient ore to keep up the present samplings until the lode in the 65 was reached?—Capt. GIFFORD said there was no doubt of that for one moment, and a great deal more.

A SHAREHOLDER had formed his opinion of the practical ability and integrity of Capt. Gifford by the very high opinion Mr. Warington Smyth entertained of him.

Capt. GIFFORD, replying to questions by Mr. Daukes, stated that the reason the 55 fathom level west was not worth so much was because the end was now in the cross-course. They were driving only upon the south part of the lode, which accounted for its being worth only 8*t*. per fathom; the large caper part of it was left for the time standing; so far as taken down it was the productive part of the lode. In addition to the part valued, the lode was worth 7*t*. to 8*t*. per fathom. Supposing both parts were being driven upon, the lode would be worth 18*t*. to 20*t*. per fathom.—Mr. DAUKES wished to call attention to the fact that the point valued was only estimating one part of the lode, although the other part still remaining would come away at a profit by-and-by. They might at any moment suddenly come into a lode worth 40*t*. to 50*t*. per fathom, as they did in the 45. It was simply an accidental circumstance that, at the time of the general meeting, some of the ends were in the cross-course. That had temporarily depreciated the value of the end, which, of course, was made the most of by those whose pecuniary desire was to depress the market value of the shares; but they all knew, and none better than the detractors, that as soon as the cross-course was passed the end would not only resume its former value, but, if they argued from precedent, would positively increase its value. These were facts with which shareholders should be made acquainted.

Capt. GIFFORD said the lode had been seen in one end, but hardly sufficient yet to prove whether it was actually out of the cross-course or not, but still it had very good stones of ore.

Mr. HITCHINS said there was one most important point respecting the cross-courses, which was that they held down stronger than they did in the 45; that was a very good augury that they and the lode would continue in depth.

The CHAIRMAN wished to ask Capt. Gifford—that being the point to which all the questions that had been put tended—whether he was taking away more ore than was being discovered? He knew the question had been previously answered, but for his own satisfaction he wished the question replied to.—Capt. GIFFORD could only repeat what he had previously stated—that a great deal more ore was being discovered than was being taken away.

Mr. PETER WATSON asked if they were suffering in any way from want of water?—Capt. GIFFORD said they were, to a certain extent, just now, but a few showers would put them all right.

Mr. PETER WATSON said that at the last meeting he enquired if they were likely to suffer from want of water, and Capt. Gifford replied in the negative. He found it all reported in the *Mining Journal*.—Capt. GIFFORD said he was still of the same opinion.

Mr. PETER WATSON asked where the ore was being crushed on the mine, although 30 tons had been crushed at Hindton.

Mr. PETER WATSON wished to know if another winding-engine would be required?—Capt. GIFFORD said there certainly would, as had always been anticipated. He further stated that the engineer computed the present engine would take the mine down to a depth of at least 100 fathoms.

Mr. HITCHINS said they all hoped and believed they would have a mine to a much greater depth than that.

The accounts were then passed and allowed, and the report was ordered to be entered on the minutes.

Mr. DAWKES said he had much pleasure in proposing that out of the credit balance of 2954*t*. a dividend of 2*s*. 6*d*. per share be declared, after the payment of which there would be left a balance of 1354*t*. to be carried forward to the credit of the account, without taking into consideration the value of the July cost, which, after deducting the July cost (not yet due), would, of course, considerably increase the credit amount. He had no hesitation in saying, upon the authority of Capt. Gifford, that there was not the slightest doubt that at least the present rate of dividend would be continued.

Mr. HAMILTON having seconded the proposition, it was put and carried.

Mr. F. G. LANE said that recently he had the mine inspected by one of the leading authorities in Cornwall, whose opinion was that it would prove to be a very good mine. The authority referred to was much pleased with the position and prospects of the mine, and was perfectly satisfied with the way in which it was being wrought.

At this juncture of the proceedings it was discovered that the share list was missing.

As the only object the party who took it could have in view was to get into communication with the shareholders, a vote of censure was passed upon the person who had so lamentably forgotten himself as to be guilty of an act so unhandy and reprehensible.

A special vote of thanks and confidence was passed to Capt. Gifford. A similar compliment to the Chairman and committee terminated the proceedings.

COAL NEAR NOTTINGHAM.—The discovery of a vein of coal on Sir Robert Clifton's estate near Nottingham is regarded as one of some importance in scientific circles. It has been frequently maintained by geologists that it was impossible for coal to be found on the south side of the Trent, except at an enormous depth. Their contention was that it was cut off by what is termed the Great Nottinghamshire and Derbyshire Fault. For many years late M.P. for Nottingham was under the impression that the mineral might be discovered under his estate, and about 12 years since he engaged persons to bore, but they stopped at about 140 yards deep, and it was surmised that they were bought off. The matter lay in abeyance until last January. Since that time trials have been going on, which, on the 9th of this month, culminated in the finding of a valuable bed of coal at a depth of only 187 yards. The mineral is of the finest quality.

At the present time the discovery is of great importance, as it opens up a vast field of fuel and mineral. It is also believed that ironstone of good quality abounds in sufficient quantities to make an additional source of revenue, besides immens beds of clay, which have been tested and found equal to the best qualities of brick.

NOVEL TUBULAR BOILER.—An improved tubular boiler, adapted for heating and warming purposes, is at present being successfully introduced by Mr. B. HARLOW, of Macclesfield. It consists of a circular tube, the different parts of which are connected by a series of horizontal pipes, which form the fire bars. At a given distance above this ring is an annular steam-chamber, and the two are connected by a number of vertical tubes of peculiar form. The whole is set in brickwork, and the fire is made in the boiler, which, as will be understood from the description, is of the form of a basket. The fuel is fed through the centre of the steam-chamber. It is claimed that the new boiler has many advantages, obtained in construction, economy, and durability, over the ordinary apparatus. One of the most important features is that in the event of injury to a tube it can be taken out and replaced in short time without disturbing any other portion of the boiler, and at a very small cost rendering it again perfect. Having to contend with only one-half the number of joints ordinarily used, it thus obviates a great defect, which has hitherto been the condemning portion of nearly all tubular boilers.

Another decided advantage is the facility with which the tubes can be cleaned. When the boiler is fixed in brickwork, by removing the top covering of the fire the whole parts to be cleaned can be easily got at. The saving in fuel is very great, as the amount of heating surface fully exposed to the fire is much greater than that of any other boiler extant, thus making it efficient, powerful, and economical.

ALCOHOL AND ILLUMINATING GAS.—Some Austrian chemists have recently been enquiring carefully into the best mode of utilising the waste products of coal oil refineries and distilleries. The result has been a successful and economical plan for obtaining alcohol from the oil waste, and a very superior illuminating gas from distillery waste. The gaseous product of the latter is said to have four times the illuminating power derivable from coal gas, and can be produced cheaper, while alcohol

Mining Correspondence.

BRITISH MINES.

BEDOL-AUR.—H. R. Harvey, Aug. 12: The 100 cross-cut has been driven about 9 ft. toward the Brynia lode, and I am expecting to cut it every day, after which I hope to increase the return of ore. The lode in the winze sinking below the 70, on the Seven Stars lode, is poor, but the ground looks favourable for ore. The lode in Jones's pitch, on an east and west vein, is about 2 feet wide, composed of spar and lead ore, yielding from 10 to 15 cwt.s. of ore per fathom. I expect to find another north and south lode here shortly. There is no alteration in the other parts of the mine.

BLACK CRAIG CONSOLS.—John Smitham, Aug. 15: We are making good progress in sinking Harriet's shaft below the 54. The stopes in back of the 54, east of shaft, on Harriet's lode, are producing from 6 to 7 cwt.s. of lead per fm., and some good saving stuff for beams. The rise in the back of the 54 north is producing from 10 to 12 cwt.s. of lead per fathom. The branches in the 54, driving east from No. 2 cross-cut, are producing from 5 to 6 cwt.s. of lead per fathom. The lode in the 6, driving east of No. 2 winze, is producing from 15 to 20 cwt.s. of lead per fathom.

BOTTLE HILL.—J. Eddy, Aug. 16: North Lode: We have commenced to drive a cross-cut north in the 24 fm. level to cut this lode; we find the ground moderately easy for working; present price for driving 5s. per fathom.—South Lode: We have commenced to drive east of the cross-cut on the course of this lode; the lode shows a very kind appearance.—Main Lode: We intend offering this ground on tribute, and cease for the present working on tutwork, or until we see a better price given for tin.

BRONFLOYD UNITED.—T. Kemp, Aug. 14: We have cut into the capels of the lode south of the new shaft, in the 63, about 4 feet: it is composed of hard spar, intermixed with copper and lead ores of a promising nature. We shall have a little further to drive before reaching the main part of the lode. This point is being argued on with all possible speed. The stopes under the 52 are worth on an average about 2½ tons of lead ore per cubic fathom. The stope west of the winze, in back of the 52, is worth 20 cwt.s. of ore per cubic fathom. The stope east of the same winze is worth 12 cwt.s. of ore per cubic fathom. Two men have been engaged during the last fortnight in timbering and securing the old stall in the 40; so soon as this work is completed I will, as instructed, put four men to drive the 40 end west on the run of the lode.

Aug. 15: We have just cut into the ore in the 63, and so far as seen it holds down thoroughly good. Samples by bearer.

BRYN GWYN.—H. Nottingham, Aug. 12: The lower level driving south from incline and east of shaft, is rather stiffer for driving again, and the ground much of the same character as it was previous to the last change we had; this end being close on the boundary, I shall suspend it at the end of this month, and take the set of men from here to the No. 2 shaft. The sum sinking in the same level, near the incline, is unproductive of lead to value, though we have small lumps occasionally; as we are still sinking, we have not done anything here yet to prove whether the joint of lead we followed down to this level is productive eastward or not. The tributary working in the No. 2 level, under the incline, is not getting much lead this month. The tribute pitch in the workings at bottom of the old incline continues to yield very good lead, in quantity about 1 ton per fm., but the ground around it is hard for working: this is forming a new feature to this part of the mine, by going down eastward in a part we tried before, but failed to trace it so far as we have it at present; thus I am led to hope that this is a run of ore that will lead us into fresh ground below, against we have the new shaft down. The trial we are making by driving south on the east side of Field's levels has been rather more promising of late, having had a few cwt.s. of ore from the joint we are driving on; the tributaries in Field's levels are getting about their usual quantity of ore. We have the engine on the mine, and are preparing to fetch the boiler to-morrow, after which we shall commence fitting it at the No. 2 shaft, and I am in hopes we shall have it in working order about the end of this month.

BUDNICK CONSOLS.—James Evans, Aug. 14: The tributaries have again resumed sinking on the No. 2 parallel lode, at 13s. 4d. in 17. for tin, and the lode is opening out very satisfactorily. The two shafts are now about 5 fms. from surface, and if the tin continue to make down, as I have every reason to believe it will, we shall open up a new and profitable mine here; and one great advantage is this lode can be cut by a short cross-cut at the adit level, which is 36 fms. from surface. The tributaries are raising about their usual quantity of tin on No. 1 parallel lode.

CAPE CORNWALL.—R. Pryor, Wm. White, Aug. 14: The appearance and character of the lode in the 10, east of engine-shaft, is still improving, and we are still meeting with some good stones of tin. The lode in the rise in the back of the 90 is worth 4f. per fm., and in the stope in the back of ditto the lode is worth 3f. per fm. The lode in the 70, west of shaft, is full 4 ft. wide, but just the same as when last reported on.

CARADON CONSOLS.—S. Bennetts, Aug. 15: The 90 west has altered but little during the past week. The stope, however, above the 80 is at present more productive than we have seen it on any former occasion. The elvan in the shaft is somewhat harder than it has been, being now just the same as in the rise above the 54, where the air will not as yet support a lighted candle.

CLARA UNITED.—J. Davis, Aug. 14: We have suspended the crushing for a day or two in order to drain the mine to the 62; the water is now about 8 fms. below the 50. There is no change in the value of the bargains. I expect the winze from the 40 to hole in a day or two. We have been able to widen the shaft a little in the 30, so as to get a larger kibble through, and I think our best plan will be to continue the 62 west until we get under the ore now worked upon in the 50, and then put the shaft in good order.

CRELAKE.—William Skewis, William Hooper, Aug. 15: The 74 will be cleared and secured by the time stated in the last report—10 days from the 8th instant. The 62 is suspended for the time, and the men put to rise in the back, at 4f. per fathom, where the lode is 4 feet wide, and worth 15f. per fathom. The stope in the back of this level is set to four men, at 2f. 12s. 6d. per fathom; the lode is 3 feet wide, worth 12f. per fathom. The 50 is set to drive by four men, at 3f. 10s. per fathom; the lode is 3 feet wide, composed of mundic, spar, and copper ore, worth 10f. per fathom, with good prospects of further improvement. Williams's, or No. 1 stope, in the back of this level, is set to four men, at 2f. per fathom; the lode is 3 feet wide, worth from 6f. to 7f. per fathom. The new, or No. 2 stope, in the back of this level, is set to four men, at 2f. 10s. per fathom; the lode is 5 feet wide, worth from 10f. to 11f. per fathom. The 40 west is set to drive by four men, at 2f. 12s. per fathom; the lode is 2 feet wide, containing mundic, capel, and copper ore. The western, or Dart's rise, is set to four men, at 4f. per fathom, to reach the back of the 28, which is about 10 feet more; the lode is 2½ feet wide, worth from 6f. to 8f. per fathom. The stope in the back of this level is set to four men, at 1f. 17s. 6d. per fathom; the lode is 5 feet wide, worth from 15f. to 18f. per fathom. There is no alteration in the 28 since last report. We calculate to sample 200 tons of copper ore for the last two months' working, in addition to the mundic and halvan ores.

CUDDRA.—F. Puckey, A. Cundy, Aug. 14: In cutting out the lode in the 142 the south part thereof we find to be disordered, and we have not yet reached the north part, but we hope to be able to report thereon by the end of the month. The present end in this level does not seem to be far enough west to take the main shoot of tin gone down from the 130. In the other parts of the mine there is no change since last week. We calculate, from present appearances, to have for sale about 1000f. worth of tin by the end of this month, which will be the produce of two months' working.

DALE.—R. Niney, Aug. 12: The 37 is about the same as when last reported, and very likely to further improve. There is no alteration in the 44 fm. level cross-cut to notice at this time.

DEVON AND CORNWALL UNITED.—T. Neill, Aug. 13: George and Charlotte: The lode in the 24 east is 4 feet wide, composed of peach and mundic; ground good for progress.—William and Mary: In the 46, east of the whim-shaft, we have a change of ground, similar to what we had in the levels above before cutting the ore. The lode in the 34 east is not so good as last reported, now producing stones of ore, but not enough to value. In the 34, west of engine-shaft, we are near the cross-course. The lode in the 22 west is 4 ft. wide, producing 5 tons of ore, and looking promising.

EAGLEBROOK.—H. Tyack, Aug. 10: In driving the 30 east of the cross-cut, from the engine-shaft, the lode is now about 5 ft. wide, containing clay-slate, carbonate of lime, white, soft spar, with strong spots of lead and copper throughout. On the north the vein carries a flockan 8 in. wide, containing solid lumps of lead. In the stope in the back of the 30, west of the cross-cut from the engine-shaft, the lode is about 4 ft. wide, containing hard clay-slate, carbonate of lime, and white spar, with good patches of copper and lead. On surface we are getting on with the dressing of the ore as fast as possible with a small force. We have now ready for market about 14 tons of copper, and about 5 or 6 tons of lead spalled uncrushed, and we intend to crush some time in next week, and will get it clean as soon as possible.

EAST BOTTLE HILL.—J. Eddy, Aug. 16: The lode in the end, east of new shaft, is still disordered, split up in branches; the tinstuff now coming from the lode is of low produce. The lode in the stope is producing stamp work.

EAST CARN BREA.—I. Richards, Aug. 13: The water at Thomas's engine-shaft is again in fork to the 90 fm. level.—Thomas's Engine-Shaft.—No. 3 Lode: In the 50 fm. level east the lode 2 ft. wide, consisting of quartz, mundic, capel, and a little copper ore. The lode in the 50 fm. level west is 2½ feet wide, and worth 2 tons of copper ore per fathom. The lode in Williams's rise in the back of the 70 fm. level is 1 ft. wide, composed of capel, quartz, mundic, and a small portion of copper ore. The lode in Richard's rise in the back of the 60 fm. level east is 1½ feet wide, and consists of quartz, mundic, and good stones of copper ore. The lode in the 50 fm. level east is 1½ ft. wide, and worth 2 tons of copper ore per fathom. The lode in Pearce's rise, in the back of the 40 fm. level east, is 1 ft. wide, and worth 1½ tons of copper ore per fathom.—Buckley's Shaft.—No. 6 Lode: Paul's rise in the back of the 50 fm. level east is suspended. The lode in the 30 fm. level, east and west of Rowart's rise, is 1 ft. wide, and worth 1½ ton of copper ore per fathom.

EAST CHIVERTON.—J. Grose, J. Nancarrow, Aug. 9: Saturday being our pay and setting day, we are set Bartlett's flat-rod shaft to ten men, to sink 1 fm., at 14f. per fm., this will complete the shaft to the 25; this, we hope, will be accomplished by Tuesday, the 13th inst., after which we shall at once commence a cross-cut to intersect West Chiverton lode. The ground now in the bottom of the shaft is of a beautiful character for the production of silver-lead ores, and having this week seen spots of lead in sinking, we think the indication favourable for the meeting with a productive lode. The engine and rods are in very good working order, and the consumption of coal small.

EAST GUNNISLAKE.—James Phillips, Aug. 15: We are still driving south in the 24 to intersect the lode. In the shallow adit we are through the cross-course, but in consequence of the lode being here south we have not seen much of it; we have, however, pricked it into about 6 in., which we find is composed of spar, mundic, prian, and black ore—saving work. When the whole width of the lode is attained I believe we shall find it very much changed for the better.

EAST NEPTUNE.—Peter Floyd, Aug. 14: Yesterday we commenced to take down the south wall of the lode that we discovered on Monday, supposing it to be so, but find it to be a branch about 6 in. wide, with rich spots of grey ore. Since then we have met with a similar branch, both dipping towards the lode. These branches present good indications that we shall find a productive lode, which can be worked.

EAST ROSEWARNE.—C. Glasson, Aug. 15: There is no change to notice in the lode in King's shaft, sinking below the 95 fm. level, since my last report. In the 95 fm. level, east of King's shaft, the lode is 12 inches wide, worth 6f. per fathom. In the 95 fm. level, west of King's shaft, the lode is 1 ft. wide, worth 7f. per fm. In the rise in the back of his level the lode is 12 inches wide, worth 6f. per fm.

EAST ST. JUST UNITED.—Richard Pryor, R. P. Goldsworthy, R. Wearne, Aug. 14: Easter Mine: There is no change to notice in Phillips's engine-shaft. The 20 east, on Agaworth lode, looks promising. The 20 west, on same lode, is without change.—Western Mine: The lode at Savenall's engine-shaft, sinking below the 20, is worth 15f. per fathom. The lode in the 90 east is worth 11f. per fathom; and in the 90 west the lode is worth 14f. per fathom. The lode in the 76 west is worth 6f. per fathom.—Buck Lode: The lode in the 62, driving east, is without much change.—Owl Lode: The lode in the 40, north from Reddipper shaft, is worth 4f. per fathom. In the 30, south from Savenall's, the lode is not looking so well, being disordered. The lode in the 20, north from West Buck shaft, is without change to notice. The lode in the 10, north from same shaft, is worth 8f. per fathom. In the 10, north from same shaft, on the branch, the lode is worth 6f. per fathom, and is promising for further improvement. The adit north from same shaft is worth 6f. per fathom.—North Lode: The lode in the 20 east is without change to notice.—Reddipper Lode: The lode in the 20 east is producing good stones of tin. No change in the tribute department.

EAST WHEAL GRENVILLE.—G. R. Odgers, W. Bennetts, Aug. 10: The men continue to make good progress with the sinking of the engine-shaft below the 95 fm. level; the lode is 20 in. wide, of flockan, quartz, &c., with stones of ore, and a little tin; and, judging from what we have seen of this lode, we are of the opinion that it has a promising appearance. The lode in the 95 east is 20 in. wide, of quartz, prian, &c., and producing good black ore; here the lode is looking more kindly than it has before seen all the way from the shaft. The lode in the 95 west is 15 in. wide, worth from 1 to 1½ tons of ore to the fathom. The lode in the stope above this level is worth 2 tons of ore to the fathom.

—George R. Odgers, Wm. Bennetts, Aug. 14: We beg to inform you that the men are getting on very well with the sinking of the engine-shaft below the 95; there is no change in the lode since our advice of Saturday. The lode in the 95, east of the shaft, is 2 ft. wide, and producing good crystallised copper, with a little tin, worth 6f. per fathom.

EAST WHEAL RUSSELL.—Wm. Richards, Aug. 10: There is no particular change in any part of the mine since yesterday. There is a large stream of water coming away from the 130 fm. level cross-cut, east of the slide. I am of opinion the main part of the lode is still ahead.

—W. Richards, Aug. 13: There is no particular change in the 130 fm. level cross-cut north, or any other point, since the date of my last report. Water flows as strongly as before from the extreme point in the 130 fm. level cross-cut, which would seem to indicate more lode ahead.

—W. Richards, Aug. 14: The part of the lode now being cut into in the 150 cross-cut, north of Homershams's shaft, is composed of capel, iron, quartz, red oxide of copper, and a little grey copper ore; it is very wet and troublesome at the present time. The lode in the 140 east is still in two parts. We are now driving on the north part only. We can prove the other part by a short cross-cut which we get further east. The lode in Dodge's rise or stope is of the same value, 6f. per fathom. I have put half of this part to sink in the bottom of the 130, so as to effect a communication as quickly as possible, when the stopping can be carried on with greater dispatch, and the air will also be improved in the 140 east and 130 cross-cut north. We have cut into the lode in the 130 cross-cut north, east of slide, over 9 ft., but not yet through it; it is promising, and contains some good stones of yellow copper ore, mundic, &c. Water flows equally as strong as before from the extreme point. The men having finished their first stope of 6 feet, I have set them to 6 feet more, or cut through the lode, at 4f. 10s. per fathom. I am of opinion when we turn and go west at this level on its course a good improvement will take place. We are driving obliquely at the 88 west, the main or ore-bearing part of the north lode being further north. The tribute pitches, on the whole, are looking a shade better.

FURSDON.—J. Collins, Aug. 10: The lode at the adit is looking well, worth at present about 25f. per fathom for length of our working. At the 11 east the lode is likely to improve very much; where we have cut through the cross-course we find ore increasing, only heated a little south. If this part turns out agreeable to our expectations we shall be able to place the company in a different position. We are now in a position to pay considerably over the working cost.

GAWTON COPPER.—G. Rowe, G. Rose, Jun., Aug. 10: There is no change in the appearance of the ground in the 79 fm. level cross-cut, north from engine-shaft; we are driving towards the lode, in which our progress is very satisfactory. The lode in the 60 fathom level east is worth 1 ton of ore per fathom. The lode in the 60 fathom level west is producing good stones of ore. The lode in the stope in the back of the 60 fathom level is worth 3 tons of ore per fathom. The lode in the stope in the back of the 50, east from winze, is worth 5 tons of ore per fathom. The lode in the stope in the back of the 50, east from cross-cut, is worth 4 tons of ore per fathom. The lode in the stope in the back of the same level, west from Moor's winze, is worth 10 tons of ore per fathom. The lode in the rise in the back of the 50, west from old stope, is worth 4 tons of ore per fathom. Other change.

GOTHIC.—J. Lester, Aug. 14: The shareholders of this mine will be glad to learn that the lift of pumps to go from the 30 to the 40 are now on the mine, and will be fixed to the bottom level next week. The lode in the 40 east continues to look as well as ever, and when the level is extended eastwards will lay open new ore ground to the extent of 250 fms., independent of the new discovery on the cross-cut north in the level above. The winze for ventilating the ore ground is commenced from the 30, and will be carried to the 40 with all speed. The shareholders may now congratulate themselves that the development of the property is going on as prosperously as predicted, and the mine must soon take rank with the best in Cardiganshire.

GREAT CARADON.—F. C. Harper, Aug. 13: I have nothing very particular to inform you of. The lode in the 72, west of engine-shaft, when last taken down was between 3 and 4 ft. wide, composed of peach, mundic, quartz, and some very good stones of copper ore. We are now driving by the side of the lode; ground rather hard for exploring, and letting out a large stream of water.

GREAT CWMYSMLOG.—R. Williams, Aug. 15: We have been using every effort to drain the eastern part of the mine as soon as possible, and completed it yesterday. The men are to-day drawing away the stuff from plat and level, and to-morrow we shall commence driving on the lode west, which, from all appearance, will be good.

GREAT LAXEY.—R. Rowe, Aug. 14: The 220, 210, and 200, driving north, are without any change of importance since our last report. In the last two named levels we have been driving by the side of the lode for the last fortnight, leaving the lode as yet standing in whole. In the 190 we continue to open out a large and valuable lode, near 12 ft. wide, worth for lead and blende 140f. per fathom. The stope also in the roof of this level continues to look well, and to maintain fully their former value.

The driving of the 180 has not yet been resumed, as the lode is being taken off at the bottom of the stope, lately holed, in order to allow a traffic for the stuff coming from the stope above simultaneous with the driving of the level. In the sole of the 180 we have recently commenced two stope, one on each side of the stope last referred to; the one to the north being worth 90f. per fm., and the other to the south 120f. per fm. We have also a stope in the roof of this level, immediately above, worth 80f. per fm., and until the ground is sufficiently stowed away, and a sole fixed in the bottom of this level, we shall have to suspend the driving of the end north, which, however, we hope to resume within a month from this date. The 155 fathom level end, driving north, continues to look well, worth 70f. per fm., and though the stope in the roof of this level have not proved so well as expected, the one below is improving, now worth from 80f. to 90f. per fm. The lode in the roof of the 155 south maintains its productive character for lead and copper, worth from 60f. to 80f. per fm. At Dumbell's we have now finished our new pumping arrangements, in addition to those for drawing, and I am happy to say that in their working and completeness nothing can be more satisfactory. I hope at the next setting-day to resume the sinking of Dumbell's new shaft below the 125 in a rich lode. The ends now driving north and south at the 125 are in a lode of an average value of 100f. per fm. The 110 fm. level end, and the stope in the roof of this level, are about as last reported. In the 70 fm. level we have suspended the driving, and commenced to sink a stope in a lode, worth 120f. per fm., for the purpose of communicating with valuable stope in the roof of the 85. Now that the new shaft is complete with pumping and drawing-g

or, and in a few instances the net proceeds have exceeded this rate per ton. During the past week a battery of eight heads of stamps, weighing about 5½ cwt., each, has been set to work. By the use of these good results may be expected, as there are large reserves of dredge ore in the shallow levels, which are now available, besides the facilities which it will afford for the ready treatment of quartzy stuff. The debenture bonds, amounting to £2250, will become redeemable on Aug. 1 next. The holders of the largest portion have signified their willingness to renew them for a period of one or two years; and your directors recommend that this meeting pass the necessary resolution approving and authorising the directors' acceptance of offers to the extent of £5000. The total quantity of produce shipped to date is silver-lead ore, 1632 tons 6 cwt., 13 lbs.; silver-lead, 145 tons 15 cwt., 2 cwt., 7 lbs., which, with ore and lead now at the mine, represents a value of £21,419.10s., net proceeds from the workings of a small portion of one lode out of 17 known to exist on the company's sections. The directors have recently visited the mine, and thoroughly inspected the workings, and are favourably impressed therewith. The report of the secretary's visit to the mine was also read. Capt. Price's usual half-yearly report spoke in very favourable terms of the operations going on, and the future prospects of the mine. The report was adopted, and the renewal of debentures agreed to, the usual complimentary votes terminating the proceedings.

BARYTES IN CUMBERLAND.—A valuable vein of sulphate of barytes has recently been opened up in a range of hills near to Keswick, the "metropolis of the Lake district;" it is found in large quantities, the vein measuring from 6 to 8 ft. wide, and extending for miles. The quality is very superior, and free from iron or lime. The mine is being worked by a private company, under the superintendence of Captain Hall, a thoroughly practical miner, whose efficient management will, undoubtedly, tend to render it a profitable adventure.

WEST BASSET AND SOUTH FRANCES.—The question whether the costs of the recent appeal to the House of Lords in the long-pending action of Lyle v. Richards, amounting to 4861. 0s. 9d., were to be paid to South Frances before the damages and costs of the action claimed from them by West Basset came before the Appeal Committee of the House of Lords on Monday. There were present the Lord Chancellor, Lord Redesdale, and other peers, and the taxing officer and other officials of the judicial department of the House. After hearing Mr. Finch, the solicitor of West Basset, and Mr. R. W. Childs, the London agent of South Frances, the committee decided in favour of West Basset—that the costs of the appeal were not to be paid until after the amount of the damages and costs claimed by them from South Frances had been ascertained by the reference agreed to at the trial. Mr. Finch contended that at the conclusion of the reference the costs of the appeal would be brought into account, and form a sett-off, which view the committee confirmed.

MINING IN SHROPSHIRE.—THE SHROPSHIRE MINING COMPANY.—In another column will be found some interesting details in connection with the development of this property. The exceptionally valuable quality of the ore has already given the mine a most favourable character; although not more than 18 months have elapsed since operations were commenced, an effective working plant and ample machinery have been provided, and explorations upon an extensive scale are in course of vigorous prosecution. The whole of the arrangements have been successfully carried out by Capt. John Kitto, under whose management Great Laxey was brought into a dividend-paying condition.

JOINT-STOCK COAL COMPANY.—The directors have announced that the share list for the allotment of the second issue of shares will close on the 25th inst. It will be needful, therefore, for persons wishing for an allotment to make an immediate application, as there is no doubt, from the fact of this company having never paid less than 10 per cent. dividend, that a large number of shares will be applied for.

MINERAL RIGHTS ASSOCIATION.—The meeting on Thursday passed off harmoniously, and the resolution for the reconstruction of the company was confirmed. The company will now be called the "Mining Association (Limited)," and the shares will be 2s. each (instead of 5s.), 1s. paid-up. Already about 150 of the shareholders have signed and returned the requisite authority for transferring their interest from one company to the other, and the whole arrangements will, no doubt, soon be completed. We understand that the company has good business to enter into immediately, and the present unusual absence of all excitement affords a most favourable opportunity for laying the foundation for large profits. Among the concerns being entertained is the gold mining property referred to in last week's Journal, rich specimens of the quartz from which can be seen at the office of the company.

THE MINERAL RESOURCES OF COLORADO.—The Paris Exposition has exhibited the largest collection of minerals that was ever produced, every civilised country in the world having contributed specimens of the best and richest of its minerals to this collection. This collection of ores has been most carefully selected, as it was known that they would be subjected to the scrutiny of the professors of the School of Mines of Paris, who are held in the very highest esteem by all mineralogical savants. Amidst all this competition for fame is a country little known in Europe, and which has only found a name in its own continent within the last six years, bearing away the gold medal for the richness and character of its ores. Colorado may be said to be the richest portion of the western metallic zone; it has produced more bullion since the time of its discovery in the very small amount of the country yet explored than the more southern portion of the range of the Rocky Mountains, which form the Cordilleras of Mexico and the Andes of South America, and this by appliances very unfit, so that much loss has been sustained in obtaining the treasures which are so largely disseminated throughout the matrices of the country. Mr. J. P. Whitney, who is a relative of the well-known professor of geology of that name, was wisely elected by the mining interest of this new State to represent them as the commissioner for Colorado at the Paris Exhibition this year, and a more able representative could not have been found, which the "Schedule of Ores," containing "Information about the Region and its Resources," written by that gentleman, and distributed at Paris, will full bear out. There are 25 selected specimens of these ores assayed, and which produce the extraordinary average of 7 ozs., 11 dwt., 12 grs. of gold, and 221 ozs., 4 dwt., 18 grs. of silver to the ton of ore, the highest for gold being 55 ozs., 14 dwt., 14 grs., with no silver, and the highest for silver being 1511 ozs., 15 dwt., 4 grs., with no gold; the copper contained in them was not looked for. Some of these specimens, and a copy of the gold medal, have been forwarded to England by Mr. Whitney, and may now be seen in London, together with a plan of the Upper Union mining district, of which Empire City is the chief town, and the most important mining centre of that new country. The great value of this district is owing to the fineness of its climate, the abundance of both wood and water, and the ease with which supplies are now brought into this interior region by railroad from Omaha to Deswur junction, which is now open to a distance of 517 miles, traversing the whole prairies from the Missouri to the Rocky Mountains.

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—The subjoined is a list of the places of meeting and the names of the presidents for the several sections at the Dunlee meeting, to commence on Sept. 4, when Mr. W. Grove, Q.C., will resign the chair, and the Duke of Buccleugh assume the presidency:—A: Mathematical and Physical Science (High School), Prof. Sir W. Thomson, D.C.L., F.R.S., &c.; B: Chemical Science (High School), Prof. T. Anderson, M.D., F.R.S.—C: Geology (Panmure-street Chapel), Mr. A. Gieke, F.R.S., F.G.S.—D: Biology (High School), Prof. Sharpey, Sec., R.S.—E: Geography and Ethnology (Albert Institute), Sir Samuel Baker, F.R.G.S.—F: Economic Science and Statistics (Euclid-street Chapel), Mr. M. E. Grant Duff, M.P., M.A.—G: Mechanical Science (Watt Hall, Constitution-road). Prof. W. J. Macquorn Rankine, LL.D., F.R.S. The local secretaries are Messrs. Henderson, Anderson, and Gloag (address, 21, Reform-street, Dundee), and Mr. George Griffith, M.A., is assistant-general secretary of the Association.

COLLIERY ACCIDENT IN AUSTRIA.—A terrible accident occurred a few days ago in a coal mine belonging to Baron Rothschild at Nährisch Ostran. By a sudden explosion of air-damp, which no one living can account for, 52 persons out of 98 at work in the mine were instantaneously killed. Such accidents are of rare occurrence in this country, and are always made the subject of judicial investigation. Any neglect of duty or proper precaution on the part of overseers or other responsible persons is severely punished, but on this occasion those in charge of the works do not appear to have been to blame.

TRANSFER OF SHARES.—In the case of the National Marine Insurance Company, three shareholders, having "lost all confidence in the company," had arranged to transfer their shares to a person who was known to be insolvent and unable to pay calls, and though the Articles of Association gave the directors no discretion to refuse registration of transfers except where the transferee was a debtor to the company, the directors, in this case, refused to recognise the transfers. The Master of the Rolls held that, notwithstanding the absence of any provision to that effect, the directors had an inherent discretion to refuse registration of transfer under such circumstances as existed in this case.

ANALYSES OF COAL, CANTEL, MINERAL OILS, and all OIL PRODUCING MINERALS are UNDERTAKEN by A. NORMAN TATE, F.A.S.L., &c.
ANALYTICAL and CONSULTING CHEMIST, and CHEMICAL ENGINEER (Author of "Petroleum and its Products," &c.).
MOLD, NORTH WALES.
Plans and estimates for oil and chemical works prepared, and their erection superintended.
Assays of metals and their ores carefully conducted.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, AUGUST 16, 1867.

COPPER.	£	s.	d.	£	s.	d.	IRON.	Per ton.
Best selected...p. ton	82	0	0	83	0	0	Bars Welsh, in London	6 10 0
Tough cake and tile	78	0	0	79	0	0	Ditto, to arrive	6 10 0
Sheathing & sheets.	81	0	0	83	0	0	Nail rods	7 0 0
Bottoms	83	0	0	—	—	—	Staffd. in London	7 10 0
Old (Exchange)	72	0	0	—	—	—	Bars ditto	7 10 0
Burra Burra	85	0	0	86	0	0	Hoops ditto	8 10 0
Wire...per lb.	0	1	0	0	1	0	Sheets, single...	9 5 0
Tubes	0	0	11½	1	0	0	Pig No. 1, in Wales	3 15 0

BRASS.	Per lb.	STEEL.	Per ton.
Sheets...per lb.	9d.-10d.	Swed., in kegs (rolled)...14	5 0 0
Wire	8½d.-9½d.	Ditto, (hammered)...15	0 0 0
Tubes	10½d.-11d.	Ditto, in faggots...16	0 0 0
Yellow Metal Sheath.p. lb.	7½d.-	English, spring...17	0 25 0
Sheets	—	QUICKSILVER (p. bottle)	6 17 0

ZINC.	Per ton.
In sheets...£27 0 0	—

TIN.	Per ton.
English blocks	91 0 0
Do., bars (in barrels)	92 0 0
Do., refined	94 0 0
Banca	92 0 0
Straits	£86 0 0

TIN-PLATES.*	Per box.
I.C Charcoal, 1st qua.	1 7 6 1 9 6
I.C Ditto, 1st quality	1 13 6 1 13 6
I.C Ditto, 2d quality..	1 5 6 1 7 6
I.C Ditto, 3d quality..	1 11 6 1 13 6
I.C Coke	1 3 6 1 4 6
I.C Ditto	1 9 6 1 10 6
Canada plates.p. ton.	13 10 0
Ditto, at works	12 10 0

LEAD.	Per ton.
English Pig, com...	19 15 0
Ditto, LB...	20 0 0
Ditto, WB...	21 15 0
Ditto, ordinary soft...	20 0 0
Ditto, sheet...	20 10 0
Ditto, red lead...	20 15 0
Ditto, white...	27 0 0
Ditto, patent shot...	23 0 0
Spanish...	19 5 0

* At the works, 1s. to 1s. 6d. per box less.
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+ A Derbyshire quotation: not generally known in the London market.

REMARKS.—The Metal Market has continued to present during the past week the same encouraging features as it did during the former one. It is very satisfactory, also, to find that a much greater feeling of confidence is springing up as to the recovery of the metal trade from its long period of depression, and also as to the improvement in commercial affairs generally, and that before long we shall enter upon a course of much greater activity and vigour, which we trust will speedily lead to the return of our former state of commercial prosperity. Orders are still coming forward with much greater regularity, and buyers seem now less afraid to enter into pretty extensive operations, and some considerable purchases have been made during the week. This fact alone shows that the metal trade is recovering; and, though it may be only gradual, yet we have every reason to believe that it will be permanent, and we hope soon to find that speculators will be enabled to enter into operations with something like confidence, as this will be sure to give a decided impetus to the market, and render it still more lively and encouraging. Prices, also, seem now to be on the move upward, and we may safely calculate that most metals have now seen their lowest point, and will gradually creep up until they attain that which will be far more remunerative than they have been for some time past. Altogether, the appearance of the metal market is more gratifying than it has been lately.

COPPER.—The market for this metal has become decidedly better during the week; the demand has improved, and business to a much greater extent has been done; and, altogether, the general tone has been much steadier. Transactions have taken place in tough cake at 77d. 10s., and in manufactured at 80l., the quotation for which is now 81l., holders declining to sell under this price. Wallaroo is now quoted at 82l. 10s. to 83l., Burra at 84l., Chili bars at 70l., and a small lot at 71l.

IRON.—In Staffordshire the demand continues much about the same as last week, and a few orders are arriving from India, the United States, and the Continent. There are more railway orders in the market, and the large contract for rails which is to be executed by native works for the Russian Government, will for a long time prevent the competition for other kinds of iron. Should the recent improvement in railway way continue, we may expect further orders on account of this kind of iron. In Welsh the slightly improved feeling which has been manifested in the trade is, so far, maintained, and prospects keep, upon the whole, rather encouraging. Foreign buyers are making more enquiries than usual, and there is great hope that the requirements of India, America, and the Continent will gradually increase. The exports continue principally to Russia, the United States, and India, and there are also some Dutch contracts in course of execution. It cannot be said that home business has as yet moved to the extent anticipated, the slow progress made by the railway companies in arranging their financial difficulties having materially interfered with the giving out of fresh orders. Certain quantities of bars are somewhat more freely purchased, and pigs are selling better. In Swedish iron business remains very fairly active. In Scotch pig-iron the amount of business has been only limited, and the price has remained without variation at 53s. cash.

LEAD.—The demand continues steady, and prices generally are well maintained.

TIN.—Early in the week the market for Straits became further depressed, and business was done at 85l. 10s., but latterly a better feeling has arisen, and prices have somewhat recovered, business having been done at 86l. cash, 86l. 10s. prompt, one month, and 88l. for arrival. The present appearance of the market is encouraging. **SPELTER.**—The market has remained unusually quiet during the week, and no transactions of importance have taken place. The price on the spot has undergone no change.

TIN-PLATES maintain their position, and the works continue in regular employ.

STEEL.—Business in foreign is much more active.

QUICKSILVER.—Only in limited demand.

BIRMINGHAM, AUG. 16.—Rylands' "Iron Trade Circular" says:—Pigs firm; in moderately steady demand. Finished iron advancing, and in request, at prices slightly nearer to fixed rates. Trade cheerful; market not lively.

MIDDLEBROUGH, AUG. 15.—The "Iron Trade Review" states:—Rail-makers fairly occupied; plates in only moderate demand: the general iron trade inactive, but looking up. Pigs increasing in makers' hands; prices unchanged. Warrant stores now stand at 75,133 tons, but nothing is being done in warrants.

The settlement of the fortnightly account in the MINING SHARE MARKET took place on Thursday, and was comparatively light, the only transactions of any particular amount having been in Chontales, Prince of Wales, Great Retallack, North Croft, West Chiverton, Chiverton Moor, Great Wheal Vor, Great Laxey, and a few other mines. The market generally continues dull, as at this time of year people are more intent on holiday making than in speculating or investing in shares. There is no sale of copper ores this week, and, consequently, no change in the standard, but copper is said to be rising. West Chiverton shares have advanced to 66, 68; fine discovery has been made in the 110, west of Hawkes'; this end has been driven 8 fathoms west on the

THE MINING JOURNAL.

about 80 fathoms in length has been made, and some dressing-machinery already exists on the property.

At Dolcoath Mine meeting, on Monday, the accounts showed a credit balance of £384. The profit on the two months' working was £171. A dividend of 10/- (3d. per share) was declared, and 260s. carried to credit of next account. Blake's stone-breaker has been successfully introduced as a substitute for hand-spalling.

At West Wheal Seton meeting, on Tuesday, the accounts showed a credit balance of £244. 15s. 5d., and a dividend of 14/- (3d. per share) was made, and the balance of £144. 15s. 5d. was carried to the credit of the next account. Mr. P. P. Smith gave notice (with the unanimous assent of the shareholders present) that he would at the next meeting cause a resolution to be moved, that in consideration of the valuable services of the purser, his salary be increased from £1. 8s. to £1. 10s. per month, to take effect from that day. Captains Charles Thomas, Malachi Bath, and John Jennings, say that "the mine is opening up very satisfactorily, rather beyond our most sanguine expectations."

At East Lovell four-monthly general meeting, yesterday, a dividend of 5s. ed. per share was declared.

At the Alderley Edge Mining Company general meeting, held at the mines, on Wednesday, July 31, a dividend of 5s. per share was declared, making the amount of dividend per share now paid £1. 17s. 8d.

At the Prince of Wales Mine meeting, on Tuesday (Mr. J. Y. Watson, F.G.S., in the chair), the accounts showed a profit on the three months' working of £670. 17s. 2d., and a cash balance in hand of £954. The assets over liabilities, charging costs and returns to end of June, amounted to £458. 11s. 6d. A dividend of 2s. 6d. per share was declared. The reserves are estimated to be worth from £18,000 to £20,000; and it is stated that, although the ends at present are not so rich as at the date of the last meeting, more ore is being discovered than taken away, thereby increasing the reserves. The details will be found in another column.

At Wheal Crebor quarterly meeting, on Thursday, the accounts showed a credit balance of £92. 14s. 3d., and a balance of liabilities over assets of 493. 5s. 5d., which includes three months' working cost. A call of 1s. 6d. per share was made. The agent's report appears in our Mining Correspondence.

At the North Wheal Chiverton meeting, to be held on Monday, the accounts to be presented will show a credit balance of £334. 3s. 1d. The ground sunk and driven during the quarter ending June was 56 lbs. 5 ft., and the average cost of driving was £1. 12s. 4d. per fm.

At New Wheal Lovell Mine meeting, on Aug. 7 (Mr. F. Hill in the chair), a call of 5s. per share was made. Mr. Charles Badson having been invited to undertake the management of this mine, his services were accepted at a salary of five guineas per month. Capt. Priske reported that they have sold 4 tons 11 cwt. 1 qr. 21 lbs. of tin during the past three months, which realised 22s. 2s. 6d. The prospects throughout the mine generally are very good, and as the ground in all points of operation is getting easier, they have every reason to expect the lodes will improve. Number of hands employed, 38.

At North Grambler Mine meeting, on Aug. 10, the accounts showed a debit balance of £017. 15s. 9d. A call of 1s. 6d. per share was made. Captain Pascoe's report says—"We have nine miners working on tribute for tin and copper, varying from 9s. to 12s. in 11".

At Wheal Margery meeting, on Aug. 6 (Mr. Samuel Higgs in the chair), the accounts showed a debit balance of £053. The call of 3s. per share was made. The committee reported that very few applications have been made for the new shares proposed to be issued. The agents reported that the prospects at the bottom of the mine were never better, but sufficient ground had not been laid open to be self-supporting.

At the Pendene Consols Mine meeting, on Monday, the accounts for the three months ending June showed a loss of £633. 6s. 10d. The assets exceeded the liabilities by £082. 12s. 2d. A call of 4s. per share was made. The agent's report called attention to the discovery of tin in the bottom levels north, the 154 end having yielded about 1 ton of tin during the past month; these being still in granite (the junction having taken almost an horizontal course), there is now every likelihood of their cutting the Great Pendene lode at these levels in granite, and should the present favourable indications continue, they think there is a very fair chance of meeting with a deposit of tin at the junction, when they trust they will be rewarded for all their patience and outlay.

The Leeswood Cannel and Gas Coal Company (Limited) meeting will be held in Birmingham, on Monday. The accounts for the half-year show a profit balance of £293. 18s. 4d., notwithstanding the extremely depressed state of trade throughout the country, the high price of labour, and the almost total collapse of the oil manufacture. The Cannel in the present workings has continued disturbed in the northern drivings since the date of the last report, and thereby added greatly to the cost of getting; but the boundary of the range in question will, before long, be reached, and the yield materially increased in the return workings. The directors recommend a dividend at the rate of 5 per cent. per annum, and that the surplus be applied in extinguishing the suspense account, carrying a balance forward. The important subject of the development of the eastern portion of the company's property has occupied the attention of the board, and previous to the next half-yearly meeting they will have matured the necessary arrangements, and will fully explain them in their report. The coal sales to June 29 were 14,399 tons 2 cwt., which realised £748. 6s. 11d. The stock at Leeswood and Plas-y-Mysa was 312 tons 7 cwt., valued at £449. 11s.

At the Port Phillip and Colonial Gold Mining Company meeting, on Thursday next, it will be proposed to distribute 1s. per share on account of the tenth dividend. The profit upon the half-year's working was £78. 1s. 7d.; and after paying the proposed dividend, and appropriating £87. (10 per cent.) to the reserve fund, there remains £818. 18s. 6d. to carry forward. The reserved fund amounts to £216. 4s., New 3 per Cent. annuities.

At the Worthing Mining Company meeting, on Monday (Mr. C. Legg in the chair), the report of the directors and balance-sheet was received and adopted. Notwithstanding the low price of copper during the past year, the property has been so successfully managed as not only to meet its costs, but to leave a fair margin of profits. Details in another column.

The Bank of England returns for the week ending on Wednesday evening showed a further important increase in the reserve. In the ISSUE DEPARTMENT there is shown an increase in the "notes issued" of £44,975, represented by a corresponding increase in the coin and bullion on the other side of the account. In the BANKING DEPARTMENT there is shown an increase in the "public deposits" of £18,354; in the "other deposits" of £9,521; in the "seven day and other bills" of £3,244; and in the "rest" of £4586. -426,7051, which, added to £39,454, the decrease in the "other securities" on the asset side of the account, shows an increase in the "reserve" of £66,159.

The spirited contest maintained by Messrs. Oakes and Peel, as representing the Defence Association of shareholders, against the liquidators of Overend, Gurney, & Co., is now terminated. The House of Lords have unanimously held that, however fraudulent may have been the prospects, and the representations by which the shareholders were induced to apply for shares, the parties on the register were liable as contributors in the liquidation. All hopes which the unfortunate shareholders may have hitherto had of getting rid of the calls are thus at an end. The decision is one of the utmost importance as regards the working of the Limited Liability Act of 1862. The remarks made by the three judges upon the conduct of the directors in issuing the prospectus, while keeping back from the public the material facts, which were afterwards disclosed by the defence association, were very severe. No more favourable case for the shareholders' getting rid of their liability can again occur, but the appellate tribunal has given such a judgment as most effectually protects the rights of creditors, and those who deal with a joint-stock company formed under the Limited Liability Acts. However harsh the doctrine may seem to those shareholders who are ruined by this company, the judgment is doubtless a sound one for the successful operation of the Act, and for the good of the community generally. The decision does not say the shareholders have no remedy, but only no remedy which would have the effect of leaving the creditors of the company without recourse against the shareholders to the extent of the unpaid-up capital. It throws the burden upon shareholders of companies, to ascertain the soundness of the scheme before venturing their money; but after signing the register, and becoming shareholders, they cannot plead fraud in the constitution of the company as against those who have dealt with it on the faith of the responsibility of the shareholders. The judgment thus supports the view taken by Vice-Chancellor Maitland, rather than that put forth by Lord Cairns.

At the China Steamship and Labuan Coal Company (general) meeting, on Thursday (Sir James D. H. Elphinstone, Bart., M.P., in the chair), it was mentioned that the directors had had an interview with the Under Secretary for Colonial Affairs, at which Mr. Pope Hennessy, the new Governor of Labuan, was present. The Chairman felt certain, from what had taken place, that instead of the Government of Labuan thwarting this company, as had hitherto been the case, a new era would be established in that respect. A resolution was passed congratulating the shareholders on the satisfactory reports which had been communicated to them from Labuan, and the excellent prospects which (from these reports) seemed to be in store for the future of the company. A statement of accounts showed—Paid-up capital, £32,000; vessels (estimated value), 44,000; Labuan property, 222,068; £s. 8s. debts owing to the company, £6,159. 11s. 2d.; arrears of calls on existing shares, 30,012. 10s.; arrears of calls on forfeited shares, 11,453. It was also resolved that the liquidators be requested to carry out the recommendation made in the reports, which was also carried, as well as an addendum to the effect that no further call ought to be made until the ships are sold.

On the Stock Exchange a moderate amount of business has been transacted in mining shares during the week. The following prices were officially recorded in British Mining shares:—North Wheal Croft, 3s. 4s. 3s.; Great Wheal Vor, 17s.; West Chiverton, 66s.; Providence, 28. In Colonial Mining Shares the prices were—Vancouver, 2s. Scottish Australian, 15-16th, 1, 1-16th; Port Phillip, 1s. 1c. Cape Copper, 7s. In Foreign Mining Shares the prices were—Anglo-Brazilian, 9-16, 1s. 9-16; Chontales, 4s. 4-11-16; Don Pedro, 1s. 13-16, 1-11-16, 1s. 1-9-16, 1s. prem.; Pestarena, 2s. 2-11-16; Rossa Grande, 7-16, 1s. 7-16; Linares, 11-16, 1s.; United Mexican, 1s.

THE COPPER TRADE.—Messrs. Vivian, Younger, and Bond (Aug. 16) write—There has been more business doing, and the advanced prices asked have been more readily paid. Some of the English smelters have shown themselves desirous of being provided with furnace material, rather than being found short of stock in the present uncertain state of the market. The principal transactions in Chili provide for our last have been about 1000 tons of ore, at £10. 10d. to £12. per unit; 600 tons of regulus, at the latter figure; and 150 tons of bars, at £8. 10s. and £9. per ton. For bars, £9. 10s. is now asked, and for ores and regulus 1s. 3d. per unit. In English copper the transactions have not been large, and quotations are wide, as "spot" can be had at a difference of 2s. per ton less, in some instances, than forward delivery. Business is limited in the foreign, at previous rates, which were already higher in proportion than English. The mail from Chili brings advices of about 1700 tons of

copper produce having been chartered for, half in bars and the remainder in rods and regulus, with a list of sales amounting to nearly the same quantity of fine copper, priced in Valparaiso having slightly improved, and freights being rather higher. The general feeling in the market here is better, and the tendency on the part of holders of copper (who can conveniently do so) is to keep it at present, in the hope of a further improvement being established.

COAL MARKET.—The fresh arrivals this week number 109 ships. Household coals have fallen off in demand very considerably, and we quote a reduction in price of fully 1s. 6d. per ton. Hartleys have retained their position, and are firm. Hetton Wallsend, 20s.; Haswell Wallsend, 20s.; South Hetton Wallsend, 19s. 9d.; Braddell's Wallsend, 18s. 3d.; Eden Main, 18s.; Tunstall Wallsend, 17s. Unsold, 10 cargoes; 70 ships now at sea.

Sale of Engines.

CONTRACT DEPARTMENT, ADMIRALTY, SOMERSET HOUSE.



TH E COMMISSIONERS for Executing the Office of Lord High Admiral of the United Kingdom of Great Britain and Ireland, do hereby give notice that, on TUESDAY, the 24th September next, at Two o'clock, they will be READY to RECEIVE TENDERS for the PURCHASE of SEVERAL LOTS OF ENGINES,

Taken from Her Majesty's ships Zephyr, Styx, Surprise, Encounter, Intrepid, Dapper, Viper, Sparrow, Arrow, Russell, Snake, and Hawke, lying in Devonport Dockyard.

Catalogues and conditions of sale may be obtained here and at Her Majesty's Dockyard at Devonport.

Persons wishing to become purchasers must apply to the Admiral Superintendent at Her Majesty's Dockyard at Devonport for notes of admission to view the same.

No tender will be received after Two o'clock on the day of treaty, nor will any will be accepted unless the party attends, or an agent for him duly authorised in writing, to make a deposit of £25 per cent. on the amount of his purchase.

Every tender must be addressed to the Secretary of the Admiralty, and bear in the left-hand corner the words "Tender for Purchase of Engines," and must also be delivered at the Department of the Storekeeper-General, Admiralty, Somerset House.

By order,

ANTONIO BRADY,

Registrar of Contracts and Public Securities.

Contract Department, Admiralty, Somerset House, Aug. 12, 1867.

To Inventors of Patent Fuel Apparatus.

INVENTORS OF METHODS FOR UTILISING SMALL COAL, by COMPRESSION, or otherwise, are invited to SEND PARTICULARS OF THEIR INVENTION to THE COAL TRADE OFFICE, NEVILLE HALL, NEWCASTLE-UPON-TYNE. THEO. WOOD BUNNING, Secretary.

To the Inventors of Safety Hooks and Cages.

INVENTORS OF SAFETY APPARATUS FOR MINES are requested to SEND PARTICULARS OF THEIR INVENTIONS to the SAFETY CAGE COMMITTEE of the MINING INSTITUTE, NEVILLE HALL, NEWCASTLE-UPON-TYNE, and to state where the same are in operation.

THEO. WOOD BUNNING, Secretary.

BOLCKOW, VAUGHAN, AND CO. (LIMITED).

WAANTED, a COMPETENT RESIDENT MINING ENGINEER, to TAKE THE MANAGEMENT of the COLLIERIES, MINES, and QUARRIES belonging to the above firm in the BISHOP AUCKLAND DISTRICT, who must give the whole of his time to the services of the company.

Applications, stating salary expected, and to whom references can be made, together with copy of testimonials, to be addressed to the secretary, at the chief offices, Middlesbrough-on-Tees, on or before 19th August.

WAANTED, a SITUATION as SURVEYOR or ASSISTANT MANAGER at a COLLIERY. Good references.—Apply to "H. D. S." MINING JOURNAL office, 26, Fleet-street, London, E.C.

WAANTED, a few GENTLEMEN to FORM a COMPANY, in connection with the Advertiser, to WORK a SILVER-LEAD SETT in one of the RICHEST LOCALITIES in CORNWALL. A bona fide speculation: 21 years' lease.

For inspection and general information, address "C. W.," Post-office, Penzance.

WAANTED, by a Copper Company, a YOUNG MAN, who has a practical knowledge of Chemistry and Metallurgy, to TAKE CHARGE OF SMELTING WORKS.

Apply, by letter, stating age and giving references, to letter box 16, Post-office, Birmingham.

WAANTED.—A RE-ENGAGEMENT as COLLIERY MANAGER.

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COLLIERY MANAGER, OR VIEWER.—WANTED, by a highly respectable Young Gentleman, a SITUATION as above. First-class references from present employer.

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TO CAPITALISTS.—WANTED, a PARTNER in, or a LOAN upon, a VALUABLE COLLIERY near CARDIFF, by the Ground Lord and Proprietor.

For particulars, apply to MESSRS. BELLISS and MARCHANT, Accountants, 6, Martin's Lane, City.

THE ADVERTISER, who has had many years' experience at an extensive IRONWORKS in SOUTH WALES, SEEKS an ENGAGEMENT as MILL FOREMAN or MANAGER. First-class reference.

Address, "B.," Lothian House, Albert-park, Ashley-road, Bristol.

COKE OVEN VAPOURS UTILISED AND CONVERTED INTO OIL.—An INTEREST in this VALUABLE PATENTED INVENTION to be transferred upon unusually advantageous terms. The saving of oil to COKE MANUFACTURERS is estimated at nearly A MILLION TONS annually. No money consideration required.

Also FOR SALE, MINERAL OIL, LAMP BLACK, and TAR DISTILLERY. Price very moderate. Shale costs 5s. per ton, yielding 30 gallons of oil. Working capital required, £1000; annual profit, £800. Products saleable in the immediate neighbourhood of works.

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TO BE DISPOSED OF, the WHOLE or PART of a SMALL PROGRESSIVE COLLIERY. Several seams have been discovered, and a good price is realised for the coal.

For particulars, apply, by post, to "J. H.," "Friends' Institute," 12, Bishopsgate-street Without, E.C., London.

TO BE SOLD, CHEAP, a PORTABLE ENGINE of 14-horse power, double cylinder, of first-class construction, workmanship, and material. Winding gear to order. SECOND-HAND PORTABLES FOR SALE.

—Apply to MESSRS. BARROWS and CARMICHAEL, engineers, Banbury, Oxon.

FOR SALE.—A LIFT of 16-in. PUMPS and BOTTOMS, all in excellent order; a quantity of hammered iron STRAPPING PLATES, all in excellent condition. Also, a 40-in. PUMPING ENGINE, only worked a few months; and a WATER-WHEEL, nearly new.—Application to NICHOLLS, MATHEWS, and Co., Bedfont Ironworks, Tavistock.

A S S A Y O F F I C E A N D L A B O R A T O R Y, No. 2, CROWN CHAMBERS, CROWN COURT, THREADNEEDE STREET, CONDUCTED BY W. T. RICKARD, F.C.S., &c.

(Late MITCHELL and RICKARD). Assays and analyses of every description of mineral and other substances, manures, &c.

Instructions in assaying, and the most improved methods of reducing gold, silver, and other metals.

MINING PROPERTIES INSPECTED AND REPORTED ON.

MR. T. HOMAS THOMAS, ASSAYER, &c., COPPER ORE WHARVES, SWANSEA.

MR. J. S. MERRIWEATHER, ASSAYER AND ANALYTICAL CHEMIST, SWANSEA.

SNAEFELL MINING COMPANY (LIMITED).—Notice is hereby given, that the REGISTERED OFFICES of the company have been REMOVED from No. 12, Old Jewry Chambers, E.C., to No. 5, SHERBORNE LANE, KING WILLIAM STREET, LONDON, E.C., and that MR. HENRY THOMPSON has been APPOINTED SECRETARY of the company in lieu of Mr. Thomas Thompson.

All letters, &c., for the London secretary, to be addressed to No. 5, Sherborne Lane.

By order of the Board, G. W. DUMBELL, Chairman.

August 15, 1867.

AUG. 17, 1867.

WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,
MINING AGENTS, STOCK AND SHARE DEALERS, &c.
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

MESSRS. WATSON BROTHERS beg to notify to their friends and the public generally that Mr. W. H. CUELL has retired from the firm, in accordance with a clause in the deed of partnership; and having also sold to the remaining partners all his right, property, and interest in the business hitherto carried on by J. Y. WATSON, F.G.S., NAPOLEON FREDERICK WATSON, and himself, under the name of "WATSON and CUELL," the same will be carried on in future by Mr. J. Y. WATSON and Mr. N. F. WATSON, under the designation of "WATSON BROTHERS," and they take this opportunity to return their most sincere thanks for the great patronage bestowed and confidence reposed in the firm for 24 years, and to assure their friends and clients it will be their earnest endeavour to merit a continuance of both.

Messrs. WATSON BROTHERS have made arrangements for continuing their weekly Circular, which has had a large circulation for many years, to the columns of the *Mining Journal*, their special reports and remarks upon mines and mining, and state of the share market, will in future appear in this column.

In the year 1843, when Cornish mining was almost unknown to the general public, attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. J. Y. WATSON, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium, published in 1843, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring success in the aggregate," and Messrs. WATSON BROTHERS have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and share dealing than there is at present; and, from the lengthened experience of Messrs. WATSON BROTHERS they are emboldened to offer, thus publicly, their best services to all connected with mines or the market, as they have for so many years done privately, through the medium of their own Circular.

Messrs. WATSON BROTHERS transact business in the purchase and sale of mining shares, and other securities, payments of calls, receipt and transmission of dividends, obtaining information for clients, and affording advice, to the best of their knowledge and judgment, based on the experience of more than 30 years active connection with the Mining Market.

Messrs. WATSON BROTHERS also inform their clients and the public that they transact business in the public funds, railway, docks, insurance, and every other description of shares dealt in on the Stock Exchange.

Messrs. WATSON BROTHERS are also daily asked their opinion of particular mines, as well as to recommend mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

Messrs. WATSON BROTHERS having agents and correspondents in all the mining districts, and an extensive connection among the largest holders of mining property, have the more confidence in tendering their advice on all matters relating to the state and prospects of mines and mining companies, and are able to supply shares in all the best mines at close market prices, free of all charge for commission.

WEST CHIVERTON—"J. R. H."—We believe the dividend due in a few days will be 27 per share. Of late very large sums have been expended in new and extensive machinery, and in sinking shafts and laying out the mine, so that in a short time the ore will be worked far more easily and at considerably less cost. All the extra work referred to has been paid out of profits, without reducing the dividend or the balance in hand, and it is only reasonable to suppose that by the beginning of next year the dividends will be materially increased. At present the mine pays 8/- per share per annum. Since this was written, there has been a good discovery made in the 110 fm. level.

"X. X."—We cannot advise on this head.

CHONTALES.—The gold sent home (about 1000 ozs.) as the result of the first month's working of these mines was got from the old and rudely-constructed mills of the natives, which were tumbling to pieces, and have since had to make way for the erection of the most approved and powerful machinery that could be sent from England. The agent, therefore, had not for many months any means of grinding the ores, but we are under the impression that a large amount of stuff has been accumulating, and when all the machinery, capable of crushing from 5000 to 6000 tons a month, is in working order, the remittances of gold will take a great many people by surprise. At Consulo the stuff yields 4 ozs. to the ton, but Capt. Paul based his estimate of more than 200,000/- a year profit, if we remember rightly, on an average of 1½ oz. to the ton. Take therefore, 5000 tons of stuff monthly, yielding 1½ oz. to the ton, and at 10/- per oz., this would give 26,250/- a year, or a profit of over 2000/- a month. If anyone thinks these figures extravagant, we can only say they are the original prospectus held out, and which many who have since been to the mines have said will be more than realised; and if they are shares will be nearer 20/- than their present price, and there can be nothing in the market better worth buying, to hold for a great rise or a good investment. We should observe that the large machinery in course of erection will render the company independent of the wet season.

SIGNALLING ON FRENCH RAILWAYS.—The systems of signalling on French lines of railway have latterly been the subject of studious investigation on the part of the Minister of Agriculture, Commerce, and Public Works, both with reference to the regulation of trains and the prevention of accidents. Improvements continue to be carried on from time to time, and the result is seen in the better timing of trains, and the occurrence of fewer accidents. The Government Committee that has made its enquiries on the subject prominently remarks on the absence of the uniformity of system on the different lines, creating a liability to error on the part of employees passing from one to another. This variance will, no doubt, in time disappear in a country in which the power of the central authority can be so readily exerted. The present work of Mr. Edouard Braine* is not merely exhaustive as to the systems of signals already in use, whether fixed or moveable, with those denominated *signaux des trains*, but sums up also various methods of signalling adopted in whole or in part, or rejected, or yet awaiting more complete trial with reference to their adoption. The work is of so wholly a scientific character, and the atlas of illustrations by which it is accompanied is so necessary to its apprehension, that for the present we must content ourselves with making it known to railway engineers, satisfied as we are that the facts detailed with reference to the results of various forms of applications of signals, and the account of the new inventions being experimented on for the purpose of bringing moving trains in connection with stations, and placing passengers *en rapport* with their guards, will afford valuable suggestions. In the latter point the French have certainly gone beyond themselves. The work is the production of an able and accomplished engineer of high reputation, and bears evidence of being the result of minute and laborious investigation.

* "Etude sur les Signaux de Chemins de Fer, a Double Voie," par M. EDOUARD BRAME, Ingénieur des Ponts et Chaussées." Paris: Dunod, Éditeur. 1867.

RAILWAY FINANCE.—A highly-interesting pamphlet has just been issued by Mr. Edward Stanford, of Charing-cross, consisting of a reprint of a letter addressed to the Right Hon. Benjamin Disraeli, by Mr. JOSEPH MITCHELL, M. Inst. C.E., and containing suggestions for the resuscitation and improvement of the railway companies at present in financial difficulties. His suggestion is that the Government should institute a rigid scrutiny into the financial condition of the companies now in difficulties, their debts, and the annual increase of their gross revenues; and that when a satisfactory statement of these is obtained there should assume and take over by Act of Parliament, in trust, the whole of these companies with their property, debenture, and floating debts. The companies taken over are to be managed by a Parliamentary or Government commission of seven, consisting of four nominated by Parliament and three by the shareholders, and that these directors should be empowered to grant a Government guarantee for the present debenture stock and for such additional funds as may be necessary to pay floating liabilities—the funds to be raised or debentures retained, which they will readily be with such a guarantee, at 4 or 5% per cent. The Government has to advance nothing, but simply to interpose its guarantee. When it has restored the company's finances it may hand over the line and works to the shareholders, and receive from its charge. The pamphlet is well worthy of attentive perusal by all concerned.

THE INSTITUTION OF ENGINEERS IN SCOTLAND.—The volume of "Transactions" just issued by this institution contains a series of highly interesting papers, including—"On the Rate of a Clock or Chronometer as Influenced by the mode of Suspension," by Prof. Sir W. Thomson; "On an Improved Screw Steering Apparatus for Ships," by Mr. James Skinner; "On an Improved Steam River Ferry-Boat for Passenger and Cart Traffic," by Mr. Julius Dreessen; "On the Theory and Practice of the Slide-Valve," by Mr. T. Adams; "On the Collection, Removal, and Application of Town Sewage, and the Saving of Water," by Mr. T. Hoey; "On a Method of Utilising Sewage, and Preventing Rivers from being Polluted," by Mr. D. A. Graham, C.E.; "On the Comparative Strength of Long and Short Struts," by Mr. James MacCullum, C.E.; and "On an Indicator for Ascertaining the Speed of Ships." The volume is enriched with a number of beautifully executed plates in elucidation of the several papers, some of which will be referred to in a future Journal.

THE WORLD'S JUBILEE.—Although pamphlets upon the National Debt are less popular than many others, it must by no means be concluded that it is impossible to find a scheme for discharging that debt, at the same time simple and practicable. Mr. WILLIAM HANN in his little work, entitled "The World's Jubilee; or, Public, Trust, and Other Debts in Relation to Mutual Societies" (published by Messrs. Marlborough and Co., of Ave Maria-lane), fully recognises that some of the schemes for the reduction of the debt have been of a somewhat wild and visionary character, others deep and abstruse, and nearly all impracticable, and takes every care to show that the plan he devises is alike useful and easy to be carried out. The essence of the scheme is the application of the building society system to the payment of the debt. The question is well argued, and has been so admirably treated that the work will be read with interest by all, whilst few will fail to derive instruction from it.

MISREPRESENTATION IN PROSPECTUSES.—The prospectus of the British and South American Steam Navigation Company (Limited) stated that the company would commence operations with six steamships, which were guaranteed to steam 10 knots, and "being fully rigged as clipper sailing ships, would perform the voyage regularly," within certain specified times. The company was a *bond fide* undertaking, but at the time the prospectus was issued the directors had only entered into contract for the purchase of two ships. A Bill in Chancery (Hallows v. Ferne) was filed by a holder of 50 shares, seeking to be relieved from all liability in respect of his shares, on the ground of misrepresentation in the prospectus. Vice-Chancellor Wood, however held that though the plaintiff had not been guilty of any laches, the misrepresentation in the prospectus was not such as to entitle him to relief.

LONDON GENERAL OMNIBUS COMPANY.—The traffic receipts for the week ending Aug. 11 was 12,082l. 9s. 9d.

NOTICES TO CORRESPONDENTS.

•• Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt: it then forms an accumulating useful work of reference.

EAST BASSET.—Once again I take the liberty of asking, through the Journal, why it is that we are never favoured with any official reports of the progress at this important mine? As I before said, its situation, former achievements, and highly valuable prospects render East Basset one of the most interesting mines, and the shares about the most delicately sensitive of any on the market, especially when the smallness of the number of the shares is considered; and it does seem the reverse of right that shareholders should have to depend on indirect and doubtful information, or the interested stories of "bulls" and "bears," except at the periodical meetings, when, and when only (as far as I can learn), we are favoured with an official report of the position and progress of our valuable property.—A SHAREHOLDER.

THE TRUCK SYSTEM, AND RAILWAY COMPANIES.—It seems to be the general opinion that the abolition of the Truck System has been a great boon to the country. Granted—allowing it to be so—that the manufacturer should not supply goods to his workmen, to the injury of the general trader; how is it that railway companies are allowed to manufacture rails, to the injury of the general manufacturers and others?—THOMAS JONES.

CORNISH CLAY AND TIN HILL MINES.—I have read the remarks in last week's Journal on these works by "One Interested." It is evident he has no interest in their welfare, and most probably holds no interest in either concern, or he would know that the quotation he selects has been explained to the members of the company more than once. I am perfectly satisfied with the progress making at both works, and, as they will shortly be inspected, I may, if he be a member, have the opportunity of sending him a copy of the reports, and for the future shall decline to notice any more anonymous correspondence.—W. WILLCOCK.

SELECT COMMITTEE ON MINES.—"R. F." (Newcastle-on-Tyne).—The report of the Select Committee appointed to enquire into the operation of the Acts for the Regulation and Inspection of Mines, and into the complaints contained in Petitions from Miners of Great Britain with reference thereto, which were presented to the House during Session 1865, is that to which "R. F." no doubt refers. It was alluded to in last week's Journal, and has now been printed. The price is 4/-d., and it will be forwarded from our office on receipt of seven postage stamps.

TELEGRAPHIC CABLE INSULATOR.—"F. J. C." (Penzance).—The application of tin as a covering for telegraphic cables is not new. Amongst the most recent inventions is that of M. C. E. Lamé de Nozan; it consists, firstly, in covering or surrounding the conducting wire or wires with a tube or envelope of tin or other suitable and analogous metal before placing the hemp, tow, or other outside covering, and the iron or steel shielding, which protects the whole; and, secondly, in interposing between the gutta percha which surrounds the conducting wire or wires and the metal tube a twisted or plaited layer of asbestos, intended for protecting the insulating matter in case of it being necessary to solder the metal tube or envelope.

MINING IN CENTRAL AMERICA.—We are obliged to "J. R." (Bridgnorth) for forwarding Frank Leslie's *Illustrated Newspaper* of Aug. 3. The letter from Nicaragua was written by Dr. Berthold Seemann, and appeared in our Journal of June 29, p. 427.

CORNISH CLAY AND TIN HILL MINES.—A letter for "One Interested" is lying at our office, his address having been mislaid.

THE MINERAL RESOURCES OF COSTA RICA.—"R. D." (Manchester).—No company has yet been formed for working the Sacra Familia Mines, but certainly nothing has transpired to detract from their value, as already stated. Whenever the state of the money market is such as to justify the opening of a subscription list the prospectus will no doubt be issued, and as there is no question as to the value of the mines little difficulty will be experienced in raising the necessary capital. Good management and a moderate outlay are alone required; the mines are well situated near a good road leading to the best port on the Pacific side of the Republic. The mines can be cheaply worked, and the ores are excellent, but at present capitalists seem disinclined to embark in any enterprise whatever, regardless of its position or its prospects. A continuation of the series of articles referred to will shortly appear.

The *MINING JOURNAL* may be had every Sunday morning of M. L. Nicoud Bellenger, rue Rivoli, 212, Paris. Price 65 centimes. Mr. Nicoud Bellenger also supplies all English and American books and newspapers to order.

SHARE DEALING.—We never interfere in the sale or purchase of shares; neither do we recommend any particular mine for investment or speculation, or broker through whom business should be transacted. The addresses of most of the latter appear in our advertising columns.

THE MINING JOURNAL,
Railway and Commercial Gazette.

LONDON, AUGUST 17, 1867.

The Mineral Statistics of the United Kingdom for 1866 are about to be issued. We have been favoured by Mr. ROBERT HUNT with a proof-sheet of the introduction, which we at once communicate to our readers.

COALS.—The regularly continued increase in the quantity of coals raised from the collieries of the United Kingdom is a remarkable feature of the year 1866. It must be remembered that the year was marked by great commercial disturbances, and that several kinds of manufacture, and that of iron especially, were suffering from a severe depression. Notwithstanding this, it has been ascertained that upwards of 100,000,000 of tons of coals were produced. The rate of increase for the last few years being as follows:

1863	Tons 88,292,515
1864	92,787,873
1865	98,150,587
1866	101,630,543

The large quantity of coal raised in 1866 was obtained from 3188 collieries, and the great development of coal mining in this kingdom is shown by the fact that in 1856 there were but 2815 collieries in active operation.

The increase in our exportation of coal was 782,631 tons; therefore, about 2,500,000 tons of coals will have been consumed in this country in excess of the previous year.

Pursuing the desire to collect all possible information in answer to the question—"How is our coal used?" which was proposed in 1865, a series of detailed export tables have been given in this publication, which cannot fail of being useful and interesting.

IRON.—The quantity of iron ore produced in this country last year was 9,665,012 tons, about 300,000 tons less than the quantity returned in 1865. In the same period the quantity of pig-iron made was 4,530,051 tons, or 289,203 tons less than the production of our blast-furnaces in the previous year.

TIN.—The tin ore produced from the mines of Devonshire and Cornwall was slightly less in quantity than that obtained in 1865, and, as will be seen by the tables of prices given, there was still a downward tendency in the metal market. The total production of tin ore in 1865 being 15,686 tons, and the mean average price 55/- 6s. per ton; in 1866 it was 15,080 tons, and the mean average price for the year was 48/- 10s. 9d. The distress occasioned by this condition of things has been, and continues to be, very great. The year 1866 was in so many respects, especially as affecting our mining operations, a remarkable one, that it has been thought desirable to examine with more than usual care the lists of mines given in the Appendix, and to remove from that list the names of every mine which was not in actual working condition at the end of December. This has considerably reduced—as will be seen by referring to the lists of previous years—the number of active mines. Of course this applies to other mines as well as those wrought for tin. Some important tables showing the progress of the Dutch tin trade since 1855 are given. From these we learn that the island of Banco in 1866 produced 158,626 slabs of tin, and that of Billiton 33,000 slabs (1000 Banco slabs weighing from 33 to 34 tons).

COPPER.—The total quantity of copper produced in the United Kingdom was 11,147 tons, to obtain which our copper mines gave 180,378 tons of copper ore, nearly 16,000 tons less than the produce of 1865. During the year there was an increase of more than 7000 tons in the copper ore and regulus imported, nearly 56,000 tons coming to us from Chili alone. For copper and tin there were, in former years, upwards of 600 mines worked in our Great Western Mining Districts, whereas the lists for 1866 show that only about 300 are now in operation. This necessarily threw a large number of miners out of work, and it appears that more than 7000 miners emigrated.

LEAD AND SILVER.—Our lead mines produced as nearly as possible the same quantity of ore—a little above 90,000 tons—as they yielded in 1865, while there appears a falling off in the production of silver. This is rather apparent than real. A great number of the smaller mines of the North of England returned their produce as giving 3 ozs. and 4 ozs. of silver to the ton of lead. It has since been discovered

that much of this was never separated from the less valuable metal. This year this error has been to a considerable extent corrected.

Of the other metals and minerals nothing need be said beyond the statement contained in the following summary:

GENERAL SUMMARY OF THE MINERALS RAISED AND THE METALS PRODUCED IN THE UNITED KINGDOM IN 1866.

	Quantity of minerals raised.	Estimated value.	Quantity of metals produced.	Estimated value.
Coals	Tons 101,630,543	£25,407,635	4,530,051	£21,326,127
Tin	15,080	731,946	9,990	885,368
Copper	180,378	759,118	11,147	1,019,168
Lead	91,047	1,161,228	67,390	1,381,509
Silver	—	—		

when the fuel is burnt, by giving free passage to the air, increases the rapidity of combustion and lessens the amount of smoke produced. With a similar object he forms sides of the blocks hollow, or with grooves in them, and these grooves also, when the blocks are in the furnace, serve as channels for the air and flame; two or more of the sides of each block may be so made. The blocks are moulded by pressure in moulds of suitable form, cores being used to form the passages through the blocks.

COAL IN PRUSSIA.—Ten years since—in 1857—the production of the collieries of the Sarre was 1,725,000 tons; 12,614 workmen were employed, and the average production per each workman employed attained a total of 165 tons. Very great progress has been realised since the date in question. Thus, in 1864 the extraction had been carried to 2,600,000; 14,026 workmen were employed, and the average production for each miner employed was 185 tons for the year. The annual increase in the production since 1864 is estimated at 800,000 tons; in fact, the progression has been only stopped in the Sarre basin, as in almost all the other coal-producing centres, by the want of labour. France consumes nearly half the production, but this outlet for Prussian coal is not considered to be extending. On the other hand, the exports to Switzerland and the sales made to the *Werkrein* are being further developed. The royal administration of Aarbrück Mines has slightly reduced this month (August) the tax charged for its coal.

DISTRESS AMONGST CORNISH MINERS.—From the reports collected by the central committee for ascertaining whether any and what distress existed among the mining population of Cornwall, it appears that, owing to the mines having stopped or reduced operations, many able-bodied men have left their homes in search of employment in America, California, Australia, and the mines of Scotland, Wales, and the North of England. There are now few able-bodied miners willing to work who are out of employ; but the average wages are reduced from 65s. per calendar month two years ago, to 54s. 6d. at present—an amount insufficient for procuring the necessities of life. Where the migrating miners have left families behind them, such families have often to suffer hardships. In the districts which are suffering most many families are reported to be without under-clothing, sleeping upon straw, and living upon coarse dry bread. In some, there are many instances in which families have crowded together to save the expense of rent. Old people are seen without the support which children hitherto been able to afford to them; and there is a general apprehension that in the coming winter there will be very severe distress and great destitution. The worst reports presented are those from the Penzance and Helston districts; it is also reported that there is much desolation at Chacewater and at Calstock. From Camborne and Redruth the reports indicate some distress, but that most of the mines are in full work. From St. Austell the report is of much mining depression, alleviated by increased activity in the china-clay trade, and some other branches of industry. In the Liskeard district there does not appear to be more distress than is usually incident to a high price for provisions. The central committee have resolved that there is evidence to show the existence of severe distress, varying in degree in the different districts, but that generally it is of a character which at present can be met by the ordinary action of the Poor Law, supplemented by local subscriptions from the more affluent classes, but it is apprehended that during the winter some voluntary aid may be required.

DERBYSHIRE MINES.

In last week's *Mining Journal* a correspondent, "Tourist," graphically described the landscape beauties and mineral wealth of Derbyshire. We, however, notice one or two errors into which "Tourist" has fallen, especially where he states that the principal seat of the mines is in the small town of Wirksworth. This is not so, for Derbyshire is a long, straggling county, having two separate and distinct mining centres, the one in the High Peak, and the other in the once-called Low Peak, situated, as described by "Tourist," in or around Wirksworth. Wirksworth, the site of MANLOVE's poem, lies rather below the middle of the county, but the High Peak occupies all the extreme north-west corner, where the country rises into mountains full of sublime scenery, rich in natural curiosities, and teeming with metallic ores and beautiful minerals. Amongst the former may be cited "The Peak," accounted of yore to be one of the seven wonders of the world; and amongst the latter may be noticed that beautiful mineral, fluor-spar, locally known in its amorphous state as "Blue John," the chief source for fluoric acid, a corrosive fluid largely known to science and the arts, particularly for etching on glass. Some writers assert that the priceless Murrine vases of Imperial Rome were manufactured from choice varieties of this spar; but whether this were so or not, it is indisputable that Derbyshire was one of the favourite mineral fields worked by the ancient Romans when in possession of this island. The High Peak dish, the Wirksworth dish, and the Crich dish are distinct, though their capacities are now made equal by Acts of Parliament—that is, of a capacity to hold 15 pints of water. The mineral customs of the High Peak are determined and governed by the Stat. 14 and 15 VIC., c. 94, and the kindred customs of the Low Peak, or Wirksworth, are established by the Stat. 15 and 16 VIC., cap. 163. As these enactments greatly resemble each other, we will not detain our readers by discussing them, but content ourselves by referring to Mr. THOMAS TAPPING'S exhaustive works on the "Mineral Customs of The Peak and Wirksworth Districts," including MANLOVE'S Rhymed Chronicle of the Lead Mines of Wirksworth. We regret that the mining prospects of Derbyshire are not as present what they should be. Probably the not having a sea-coast, the expense of land carriage, the hardness of the country rock, and the low price of the mineral when obtained, may all tend to depress mining adventure in this county. Lead does not yield prizes so tempting as do copper and tin: still, with all this, mining in Derbyshire may be made again to flourish, by carefully selecting mineral grounds, and working them with ample capital. At present, Derbyshire miners, as a body, are entirely ignorant of the advantages of associated capital, coupled with limited liability; and our belief is that if companies of this class were judiciously established throughout the county it would not be long before that favoured spot regained its ancient prestige of being the chief source for English lead.

METALLIC MINING IN YORKSHIRE.

MUD AND COPPER MINING IN THE SWALEDALE AND MERRYBENT DISTRICTS.—The Swaledale mining district is one which is, as yet, almost unknown in the London mining market, but which is not the less worthy of the attention of all who are interested in mining enterprise. The metallic mines of the Yorkshire dales are all worked in the carboniferous or mountain limestone series of rocks. Some of these mines have been worked since the days of the Romans, and have for generations returned very large profits. Old Gang Lead Mine is at the present time returning to its proprietors many thousands of pounds yearly profit, at least 250 to 300 per cent, upon the original outlay; whilst Hurst, Keld Head, and other mines, all worked as private partnerships, are said to be giving profitable returns, only second to Old Gang in amount.

One of the most interesting features of the district, however, is the discovery of an extraordinary deposit of copper ore on a property known as the Merrybent Estate, situated about midway between Richmond, in Yorkshire, and Darlington; in fact, the ore there discovered has been pronounced by the highest mining authorities to be perfectly unique in Great Britain, and only comparable for richness and freedom from earthy admixture to the produce of the Burra Burra Mines, in Australia. This remarkable discovery was accidentally made by a drainer at work in one of the fields, and no less than 600 tons of copper ore were extracted and sent to the market from a thin bed of surface limestone, about 2 fms. in thickness, and within a short length of 30 fms. on the course of the lode. No dressing whatever, beyond mere drying, was necessary to render the ore marketable; several considerable samplings averaged upwards of 45 per cent. of pure copper, and realised from 35s. to 38s. per ton. Upon this discovery becoming known, some gentlemen of the neighbourhood purchased the Merrybent Estate, and, having quietly secured mining leases of the principal adjoining royalties, formed a company for the purpose of developing the copper lode (which can be traced for several miles across the country) in the main ore-bearing limestone beds of the district, which lie at a depth of 40 to 60 fathoms below the thin surface bed wherein the first discovery was made. Since that time the proposed shaft has been progressing slowly but surely, and the main limestone has recently been reached 40 fms. below the surface. It is intended to continue the shaft through that limestone, and then to cross-cut to the copper lode, and there can be

little doubt that some further most valuable discoveries of ore will be made within the next six or eight months. Pending the completion of the engine-shaft, the exploring adit levels have been driven a considerable distance, and have intersected several lead-bearing caunter lodes, which lodes, notwithstanding that the face of the deepest level is not above 13 fms. below the grass, have already returned 3900t. worth of ore, and are now producing about 40 tons of lead ore monthly, worth on an average 11s. per ton—in fact, the returns of lead from the superficial levels referred to are more than sufficient to meet the current cost of the mine.

The Merrybent estate contains not only metallic riches, but it is expected that the limestone rock itself will shortly be utilised by the construction of a line of railway 6 miles in length, to join the Darlington and Barnard Castle branch of the North Eastern Railway, for which an Act has already been obtained. This railway will enable the Merrybent Mining Company to deliver limestone, of which nearly 1,000,000 tons per annum are used as a flux in the iron smelting furnaces of the Cleveland district, at a price which will leave a splendid profit upon the cost of quarrying—in fact, the shareholders in the Merrybent Mining Company, working as they do the minerals in their own estate, and with the remarkable discoveries already made and in prospect, cannot fail shortly to reap most substantial returns from their enterprise.

THE COMMERCIAL WEALTH OF THE UNITED STATES.

PROFITABLE EMPLOYMENT OF CAPITAL.

As we promised in last week's Journal, we continue the review of the able work on railways generally, and American railways especially, by Messrs. BELLOT DES MINIERES BROTHERS, of Gresham House. At this inauspicious moment, when a settled gloom hangs over the financial, commercial, and railway world, it seems inopportune, if not injudicious, to call public attention to a class of investment which, amongst so many others, has not been a little discredited during the late crisis. But it is necessary to keep the lamp of enterprise constantly burning, lest that the spirit and fire of industry should become altogether extinguished. Amidst the financial distress and confusion which now prevail, owing to the collapse of a vast number of gigantic projects in both Europe and America, it must be borne in mind that a much greater number of sound undertakings still survive, which have stood successfully the ordeal of the last 18 months, and now promise to yield a rich harvest of profit to the capitalists who have been in a position to "hold on" through these trying times. The present low state of interest must sooner or later tend to revive the long-continued dormant activity of the public.

Amongst other undertakings attention is called to the American Central Railway—one of those magnificent schemes, which viewed in connection with the gigantic project of the Union Pacific Railroad, is a grand and national enterprise, and one which will tend more to advance the general commerce of the world than, perhaps, any other undertaking. Messrs. BELLOT DES MINIERES BROTHERS, the eminent contractors for the American Central Railway, have recently issued a pamphlet, having for its main object to win back public opinion to a more just appreciation of the position and value of American railroads than now prevails, in consequence of the shock to public confidence caused by the dispute into which the Atlantic and Great Western, with other transatlantic railways, have fallen. With a view to counteract the damaging effect of those disasters, caused wholly by mismanagement, we are now told authoritatively that taking 15 of the best railway lines in the United States they pay to their shareholders no less than 27 per cent. profit, whilst a great many more do not pay less than 18 per cent.; and in fact, whilst British railways yield at the best but a scanty, precarious income far less than that derived from foreign stocks, there is scarcely a railway in the United States which does not pay a reasonable, if not a handsome, dividend, mainly because the cost of construction is cheaper, and the right of way costs little or nothing. The absence of branch lines in direct connection with the main trunk line, the higher rates paid for passenger and general traffic, all concur in making an American line what Lord CAIRNS calls a "going concern" whilst our own lines, complicated with a thousand embarrassments, are cast into discredit, or into the inextricable vortex of the Court of Chancery.

The American Central Railway crosses the States of Ohio, Indiana, Illinois, and Iowa, perhaps the most productive, the most populous, and thriving region of the United States. It is 585 miles in length, and at its extreme point east, at Omaha, it joins the Union Pacific Railway, thereby shortening the distance from New York by 136 miles. The Union Pacific is, we know, to be the length of 2400 miles, has already received an appropriation from the United States Government of \$100,000,000, and of 40,000,000 acres of contiguous land, vastly more valuable: 500 mile of the Union Pacific Railroad are already at work. At the east, from Omaha to Fort Garay, 250 miles are in operation; whilst at the other terminus westwards, the State of California having undertaken to accomplish half the entire burden, is pushing forward the work with unexampled vigour. Some \$20,000,000 have already been spent, the summit of the Sierra Nevada is being bored through near its crest, and the engineering obstacles of this mighty undertaking are practically surmounted. No less than 150 miles of this portion of the system are in successful and profitable operation.

This very brief sketch will enable our readers to take into their minds the simple but vast undertaking which, by the construction of the American Central Railway, will, when completed, bring New York and California into direct communication. The boundless local traffic which will necessarily be developed throughout the whole line; the perpetual stream of commerce which must flow into the ports of the Atlantic and the Pacific Oceans; the numerous already existing intersecting railways, which must act as feeders to the American Central Railway, especially in connection with the markets of Chicago and the Lakes, form collectively an amount of carrying trade which has been roughly reckoned at hundreds of millions of tons annually, but which must be practically inexhaustible. The abundance of coal found in the very track of the line will contribute immensely to lessen the expense of its working; and when, on the other hand, the rich minerals of gold, silver, and other valuable metalliferous products of the adjoining states and territories are taken into account, together with the abundant and diversified agricultural products raised in those fertile regions, there seems little doubt but that the general traffic of both passengers and produce must be enormous, continuous, and not destined to encounter any competition from any quarter.

We will continue in next week's Journal our study of the work above referred to, published by Messrs. BELLOT DES MINIERES BROTHERS. It is worthy of the notice of all business-men; no abler book upon the matter has yet been published. If the practical ideas set forth in it had been acted upon, hundreds of millions of squandered money would have been saved by investors in railway securities.

MINERAL WEALTH OF THE PACIFIC.

The season opens with bright prospects in favour of our metallic and mineral-bearing country. The fabulous accounts from all our Pacific States and territories and Colorado are, indeed, incentives for those desirous to invest. New districts and unexplored fields are opened, each presenting more inducement than their famous predecessors. We are daily in receipt of new rich discoveries. Several well-known experts, and persons qualified to give an opinion, give us to understand that no better silver deposits are known in the world than in the Pacific States and territories. The public are not sufficiently educated as to the necessities required for mining enterprises, otherwise greater results might have been achieved. The bullion product thus far obtained has been chiefly wrought out by the severest toil and privations on the part of explorers and miners. Some little encouragement has been given by capitalists to mining enterprises, and that may be only considered as experimental; the earnest and real purpose for mining has not reached its zenith, but the day is not far distant when we may say that those who have a spare pound to invest will willingly grasp at any shares that may offer. Great results are expected from the enterprises emanating from the silver mines on the Pacific coast during the next twelve months; this will have its desired effect. Very many reliable parties from the Eastern

States of America are now sojourning in this country for the purpose of purchasing valuable tracts of mining property, to hold the same until our great highway shall reach from ocean to ocean, when, no doubt, the mining mania will take place. Cash will be readily offered and demanded for such mines, and the limited inducement of disposing of mining property on the basis for working capital will surely cease. A short review of some facts observed from the recent returns for the silver mines on the Pacific may assist us in drawing conclusions for safe investments in this class of property. Prince fortunes have been made by it in the shortest time. The history of the Mexican mines, as chronicled by Humboldt and Ward, furnishes remarkable illustrations, but they could possess a still higher degree of interest than an equally able historian could be found in the present time, who might add those developments which have taken place in the present century. The Comstock lode, in the State of Nevada, may be ranked among the richest and most productive on record in any part of the world. Its total produce has been from 1862 to 1865 \$45,000,000; since which time the annual production of silver in other parts of the world has not undergone great changes; the total amount of silver produced was, according to Prof. Whitney, \$47,443,200; of which sum \$7,864,000 came from European, and \$39,451,200 from American mines. It will be seen that the produce of silver (deducting the gold) of the Comstock lode, in the last three years, was about 23 per cent. of the entire amount furnished by all the silver mines in the world. This extraordinary productivity has created a new branch of mining in the Pacific States, with such remarkable results in the space of a few years from all our silver mines, which has made them more famous for their mineral wealth than many places where silver ores have been mined and abstracted for centuries. It has and will give successful employment to large amounts of capital, and rescue the trade of the world.

From the "San Francisco Stock Circular":—The mining share market continues exceedingly active; most shares have sold at an advance over our quotations of last week, Savage advancing from \$3500 to \$3750. During the week ending May 18, 2326 tons of ore were extracted, which has given \$96,596. Hale and Norcross was offered at \$3500 during the past week. From the 1st to the 19th 2167 tons of ore were extracted, showing a yield of \$92,300. Every portion of the mine is said to look well. Yellow Jacket has been in favour, with an advance from \$1725 to \$1800. The produce from the 1st to the 13th, in bullion, was \$66,311-36. Gould and Curry has been in considerable favour, improving from \$275 to \$280. Alpha from \$425 to \$490. Imperial from \$210 to \$274; bullion received during the month of April aggregated \$95,162-91. Confidence from \$67 to \$88; bullion amounted for April to \$17,131-19. Crown Point closed at \$1750. In this mine where the rich strike was made is 5 ft. wide. A miner who was working in the drift when the ledge was cut rushed to a broker's office, as soon as he could get out of the mine, and bought 1 foot at \$800; the next day the stock went up to \$1400, and has risen since to the amount of \$1750. During the week the shipment of bullion by Wells, Fargo, and Co. amounted to \$245,415-45.

MINING, METALS, AND MINERALS—PATENT MATTERS.

BY MICHAEL HENRY,
Patent Agent and Adviser, M. Soc. Arts, Assoc. Soc. Eng.

The extracting of silver from lead by means of zinc—an object which Mr. Parkes was one of the first, perhaps the very first, to attempt—has recently formed the subject of a patent, taken out by C. F. FLACH, of Call, in Prussia. He divides the process into three stages—"desilvering" lead by zinc, purifying the "desilvered" lead, and separating the silver from the alloy of lead, zinc, and silver. He requires no addition to the ordinary apparatus used in lead works, except a small blast-furnace. He states that the essential conditions under which lead can be completely desilvered with the smallest quantity of zinc consists in this—that the lead must have a temperature of from 600° to 700° centigrade; and the necessary quantity of zinc must be distributed over two or three operations. The lead is to be placed in a pot, having a draw-off tube and cock at bottom, which is highly heated; zinc is introduced, and the whole stirred, and left to rest and cool, when the supernatant alloy of lead, zinc, and silver is drawn off, and the operation repeated twice or thrice, each time with the addition of a small amount of zinc. The desilvered lead, containing zinc, is run into a blast-furnace, preferably with a silicious slag, and then melted with green wood. If any antimony remain with the lead, it can be removed by red-heat in a calcining-furnace, or by common salt. The patentee states that heretofore the capability of green wood to remove zinc from lead was unknown. A calcining-furnace, steam, or other means of heat may be substituted for a blast-furnace.

Mr. GREENSHIELDS proposes to utilise certain animal, vegetable, and mineral materials, by forming them, or some of them, into a compound, to be applied with or without shale or other carbonaceous material, for the production of illuminating gas. He mixes together resin, pitch, oil, or dead oil, or heavy oil, paraffin oil, tar, or other form of paraffin, petroleum, animal tar, an alkali earth, or metallic oxide, capable of saponifying, and forming either a soluble or insoluble compound. The substances to be saponified are boiled with an alkali, and allowed to cool and solidify, or the compound may be left in a soft plastic liquid or soluble condition.

Mr. BERNARD LIETAR patents a composition for welding or soldering metals, consisting of filings of iron or steel, combined with borate of soda (borax), balsam of copaiba, or a resinous oil and an ammoniacal salt. The ingredients are mixed, calcined, and reduced to powder. Certain proportions are mentioned, though the patentee does not restrict himself to them.

Mr. ALPHONSE DONNET specifies, under his patent, an improved construction of water-well, according to which he proposes to close the well in a staunch air-tight or hermetical manner at the surface of the water, or between the surface of the water and the top of the well, in such manner as to entirely intercept all communication between the water and the atmospheric air, except through the bottom of the well, by which means the patentee considers that the well will supply a much larger quantity of water than an ordinary well of the same size would yield. One mode of closing in the well is by forming the water-chamber of air-tight masonry or concrete, having a ledge at top, on which a metal plate is rested, and made tight by cement or packing. Another mode consists in fixing to the well, at the bottom, a metallic bell, cylinder, or chamber, closed at the top and sides, but open at bottom.

Recent applications for patent include the following:—HORSLEY, Alfreton, treating cast-iron.—CLARK (communication from Schmitte and Ledvallo, Paris), metallic alloy and its applications.—DAWSON, Great St. Helen's, smelting titaniferous iron-sands.—ABEL (communication from Bennett, Pittsburgh, U.S.), removing sulphur, phosphorus, and other impurities from iron, steel, and other metals.—WILSON, Bolton, furnaces.—M'DOUGALL, Manchester, consuming sulphur.—RAWLINGS and WILKERSON, Eversden, washing coprolites. Notices to proceed having been lodged by the following applicants, oppositions intended thereto must be entered on or before Sept. 4:—No. 960, HAHN, gunpowder.—No. 989, REEVES, explosive compounds.—No. 997, SPENCE, separating zinc and recovering substances from minerals.—No. 1027, ADAIR, pumps.—No. 1953, VICARS and SMITH, smokeless furnaces.—No. 2099, LISTER, consuming smoke, economising fuel, &c.

REPORT FROM SCOTLAND.

AUG. 14.—There is almost an undisturbed tranquillity in our Pig Iron Market, so far as prices are concerned, and a moderate business is being transacted, the shipments showing, for the week just ended, 13,130 tons, against 12,460 tons in 1866. The following is the list of furnaces in blast, out of blast, and built at date:—

Brand.	Blowing.	Out.	Built.
Gartsherrie	12	4	16
Coltness	9	3	12
Summerlee	6	2	8
Dundee	1	2	3
Langloan	5	3	8
Calder	6	2	8
Carnbroe	4	2	6
Shotts	3	1	4
Omon	2	2	4
Wishaw	3	0	3
Monkland	7	2	9
Chapelhall	4	3	7
Clyde	2	1	3
Clyde (Quarter)	0	3	3
Castleshill			</

wrought up to such a pitch of enthusiasm at his last very stirring address as to pass a resolution to "contribute something to enable him to make the journey in comfort." There is no doubt Mr. McDonald likes to travel in comfort, and as much as possible at the expense of others.

The great majority of the shipyards on the Clyde never presented a more thorough deserted-like appearance than they do now. It is pleasing, however, to notice that Messrs. J. and G. Thomson, Govan, have received orders from Messrs. Burns and Maciver, Liverpool, to build a first-class screw steamship, of 2500 tons, for their Atlantic service. It is to be named the *Samaria*.

On Tuesday, a series of explosions of gas, happily unattended with loss of life, occurred in Messrs. Potter and Company's Greenfield coal pit, near Hamilton. The first explosion took place between five and six in the morning, while the men were working in the pit, and on the earliest indication of gas being discovered they rapidly made their way to the bottom of the shaft, from whence they were immediately conveyed to the surface in safety. In less than an hour afterwards a second and more violent explosion occurred. When its effects had subsided, several of the workmen volunteered to descend the pit for the purpose of bringing up the horses, which they succeeded in doing. Several other explosions happened at various intervals during the day, and attempts were made to smother the fire by closing the pit mouth with beams of wood, earth, &c., and by throwing water down the shaft. These ultimately succeeded, and operations at the pit have been almost wholly suspended. Some time must necessarily elapse before the pit will be in such a condition as to permit the men to resume their work.

A correspondent of a local contemporary, who had been visiting the island of Islay, notices the resumption of mining operations in that island in these terms:—"The lead mines near Ballygrant had often been tried, but had invariably failed, on account of their not having been sunk sufficiently deep. Mr. Jeffrey has gone upon the principle that the veins would reappear and considerably improve, although lost sight of for some time, by sinking deep enough and his opinion has, after a fair trial, been completely verified. Two of the mines which are at present wrought are in a very flourishing condition. At Ballyvorie, on Mr. Child's estate, the appearance is really fine. The thickness of the lode is from 3 to 4 ft., while there may be altogether a thickness of from 1½ to 2 ft. of solid galena interspersed in a matrix of calcareous spar. At the other mine, at Mulreens, on Mr. Morrison's estate, the lode, which runs in a north and south direction, is 20 ft. wide in several parts, and the ore is richly interspersed, frequently 3 ft. thick. This lode is intersected by several others in an east and west direction, and at the points of intersection the ore usually increases largely in thickness. These two mines yielded 222 tons of ore last year, and, from their present appearance, we may calculate the yield for the current year at 300 tons. The lead or in this district is spread over an area of fully 12 square miles; and numerous other mines would, no doubt, be as productive as those wrought at present were they to have a similar trial. These two which are so flourishing at present were given up as completely exhausted in 1836. At Ardachy, on Mr. Child's estate, is one not yet tried by the present company, which was formerly the most productive in the island. This mine was wrought as late as 1843, and we remember that at the time it was given up the appearance was very good. We do not doubt in the least that, according to the present mode of working, if it were opened up again, it would repay expenses and yield a good profit."

MOTHERWELL—ARRIVAL OF CORNISH MINERS.—On Tuesday, a number of Cornish miners arrived at Wishaw, to partially supply the place of the men who came out on strike about ten weeks ago from Messrs. Scott and Gilmore's pits. The manager of the works waited the arrival of the strangers, and kindly supplied them with refreshments. Mr. Russell's, of Sunnyside, men arrested locked out. The arrival of the Cornish miners caused considerable surprise. An agent from the Miners' Union had a conference with the Cornwall men yesterday.—*Scotsman*, Aug. 15.

REPORT FROM NORTHUMBERLAND AND DURHAM.

AUG. 15.—The great event of the week has been the cutting of the first sod of the "Dinnington Colliery," which will be about half-a-mile west of Wideopen, on the Morpeth road, and about a mile from Seaton Burn Colliery, to which it is intended to be an adjunct. Its importance in connection with the working of Seaton Burn will be very great, as it will much facilitate drainage operations, and permit of both Seaton Burn and Dinnington Collieries being worked very economically. Messrs. John Bowes and partners are the proprietors of the collieries, which produce a steam coal which enjoys a considerable demand at present. The coal in the Seaton Burn Colliery dips down towards Dinnington, and it is intended to work the coal from this dip by this new colliery, and also to bring the water partially away from the Seaton Burn Pit, which is a very wet pit. A large pumping engine of 150-horse power will be erected. At present, nearly 1000 gals. per minute are lifted from the Seaton Burn Colliery, and, probably, it will be necessary to lift a larger quantity from the new pit. The shaft will be sunk to the Low Main seam, which is 85 fms. from surface. The shaft will be 17 ft. 9 in. in diameter on the outside, and 15 ft. 6 in. on the inside. It will be walled with fire-brick walling lumps. A railway, in course of formation, will run from the new winning across the Morpeth road, a little south of Wideopen, until it joins the railway, which runs from Seaton Burn Colliery to the Northumberland Dock. The sinking of the shaft and the erection of the necessary machinery will be carried out under the superintendence of Mr. S. C. Crone, viewer, of Killingworth, and of Mr. W. R. Wight, engineer at the same place. Nothing has been done as yet with the important undertaking, but it will be commenced at once, and 20 cottages are in course of erection for the men who will be employed in sinking the shaft and erecting the engine-house. The cottages are to contain three rooms each, and to be superior to any yet built in the colliery districts. The ceremony of cutting the first sod was most ably and gracefully performed by Mrs. C. M. Palmer, in honour of whom the pit has been called "the Augusta Pit." The success of the colliery was formally drunk by Mr. Palmer, who in an interesting speech informed the workmen that provision had been made for them to drink success to the Dinnington Colliery, as they had called it after his wife, "the Augusta Pit," at the different publichouses in the village. He remarked that, although they were only removing the first sod, it was the commencement of a large shaft, and that shaft was designed to bring forth coal to a large extent, from 800 to 1000 tons per day. "In producing such a large quantity of coal," he continued, "it is in the first place enriching this part of the country, because the mineral itself is our possessions; it is our wealth, and the foundation of our greatness. In the next place, it gives employment to a large number of people. In opening this colliery it is not simply a shaft we are sinking. In the course of a few years we shall see here a hive of industry. . . . In carrying out a large undertaking like this, it was necessary to provide for the education of the children of the workmen, and also to provide for their spiritual welfare, either by erecting churches or in assisting you in erecting your own chapels."

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

AUG. 15.—Wolverhampton Races made the Exchange in that town thin on Wednesday, and almost equally tended to diminish the work done in the mines and at the ironworks. However, the iron trade is certainly mending; and as the quarter has so far advanced without any reactionary cry, it may be hoped with confidence that the tide is fairly turning. There seems good expectation of a considerable autumn demand for the United States and British North America; and confidence is growing, and making itself manifest in the advance in the prices of securities, we may hope that the whole trade of the country will soon feel the current of life flowing with increased strength and velocity.

The affairs of Messrs. Whitehouse, of the Ridgacre Ironworks, West Bromwich, and the District Ironworks, Smethwick, are a good deal canvassed. The firm, until a few weeks ago, consisted of three brothers. About a year ago, on the youngest attaining his majority, the works were handed over to them by their father's executors, when it is understood the firm was possessed of a net balance of 25,000L. A recent trial at Stafford revealed the fact that one of the partners had been signing bills in the name of the firm to a large amount, for which they got no consideration, whilst he was paid large sums for lending their name. The firm became bankrupt last week. A meeting of the creditors of the firm was held to-day, at West Bromwich. The liabilities were put down at 40,000L, of which 14,000L are secured. The assets were estimated at 39,000L. It is a mere speculation what the dividend will be. There is understood to be a considerable estate, but as yet it is impossible to say what the extent of the claim has may be, besides those property belonging to the firm.

At Stourbridge Petty Sessions, on Aug. 9, Enoch Dainty, the deputy of a chartermaster, was charged on the information of Mr. Baker, Inspector of Mines, with a violation of the rule requiring that the working of a mine should be examined before the men go to work. The defendant went down with others in a skip, on the morning of April 25, and two boys, who formed part of the band, lost their lives from inhaling choke-damp. The solicitor for Mr. Baker pressed for a sentence of imprisonment, but the magistrates only inflicted the full fine of 2L, which was increased by costs to 6L 11s.

Amongst the limited companies which have come into existence since the passing of the Act giving power to create them, none have proved more satisfactory to the shareholders than that which has

taken the Patent Shaft and Axletree Works of Mr. Thomas Walker, at Wednesbury. Mr. Walker had obtained a large fortune, and wished to relieve himself of a portion of the responsibility and anxiety of his position, but he consented, for some time at any rate, to act as Chairman of the company, and his able manager, Mr. R. Williams, remained. In January last the large concern of Lloyds, Fosters, and Co., in the same town, was united under the same company, and its managing partner, Mr. Sampson Lloyd, of Wednesbury, a relative of the late candidate for Birmingham, became deputy-chairman. The company again pay 15 per cent., and make very large allowances for depreciation, &c. It is pretty certain that they will not be less successful in future than hitherto, as the demand for railway plant is sure to be great; and at the meeting on Wednesday a very sanguine view was taken of their future prospects.

QUARTERLY STATEMENT OF BLAST FURNACES.—No. II.

Made up to July, 1867.

SOUTH STAFFORDSHIRE AND EAST WORCESTERSHIRE.

WOLVERHAMPTON.

Name of works.	Owners.	Built.	blast.
Chilington	Chilington Iron Company	4	2
Wolverhampton	Assignees of J. Aston and Co.	2	0
Parkfield	Parkfield Iron Company	5	5
Millfields	Mrs. Gibbons	4	3
Priestfields, Old	W. Ward and Sons	3	0
Priestfields, New	W. Ward and Sons	2	1
Oster Bed	Oster Bed Iron Company	3	1
Stow Heath	W. and J. Sparrow and Co.	4	2
Willenhall	Fletcher, Solly, and Urwick	3	3

BILSTON.

Bilston Brook	Bilston Brook Furnace Company	3	2
Herbert's Park	D. Jones	1	1
Barber's Field	Barber's Field Iron Company	2	1
Capondifield	J. Bagnall and Sons	3	2
Spring Vale	A. Hickman	3	2
Deepfields	W. E. Gibbons	3	1
Priorfields	H. B. Whitehouse	3	3
Stonefield	Stonefield Iron Company	1	1
Bradley	G. B. Thorneycroft and Co.	2	0

WEDNESBURY.

Rough Hay	Addenbrooke, Smith, & Pidcock	3	2
Old Park	Patent Shaft Company	3	3
Broadwaters	S. Groucott and Sons	3	2
Darlaston Green	Darlaston Iron and Steel Co.	3	2

TITON.

Wednesbury Oak	P. Williams and Sons	3	2
Willingsworth	J. and H. Haines	3	0
Tipton	Rhos Hall Iron Company	2	0
Coneygreen	W. Roberts and Co.	4	4
Part Lane	Earl of Dudley	3	3
Horseley	J. Colbourn and Sons	2	1
Stour Valley	J. Colbourn and Sons	2	2
Groveland	J. and S. Onions	2	1

WEST BROMWICH AND OLD BRYC.

Gold's Hill	J. Bagnall and Sons	3	2
Union	P. Williams and Co.	3	3
Crookhay	W. and G. Firmstone	4	3
Oldbury	W. Bennett	4	0

WALSALL.

Birchill	John Jones	5	0
Hatherston	W. Fryar	2	1
Bentley	Chilington Iron Company	2	1
Pelsall	B. Bloomer and Son	2	1
Green Lanes	John Jones	2	1

DUDDLEY AND EAST WORCESTERSHIRE.

Corngreaves	New British Iron Company	6	0
Dudley Wood	N. Hingley and Sons	4	2
Withymoor	W. H. Dawes and Sons	2	1
Netherton	J. and G. Onions	2	1
Windmill End	J. and G. Onions	2	1
Windmill End	Hickman and Co.	1	1
The Level	Earl of Dudley	4	2
Netherton, New	M. and W. Grazebrook	2	1
Woodside	Cochrane and Co.	3	0
Old Level	Hall, Holcroft, and Pearson	3	0
Shute End	J. Bradley and Co.	4	3
Oak Farm	Sir G. Glynn	2	0
Corbyn's Hall, New	B. Gibbons	4	2
Corbyn's Hall	W. Matthews	4	2
Russell's Hall	C. E. and J. Bradley	5	3
The Lays	W. and G. Firmstone	3	2
Dixon's Green	W. Haden and Son	1	1
Parkhead	Evers and Martin	2	1

Total 167

Furnaces blowing, June, 1866. 125

NORTH STAFFORDSHIRE.

Biddulph	Robert Heath	6	3
Clough Hall	Kinnerley and Co.	4</	

large traffic from the Cinderford valley 48,545 tons, as against 37,468 tons for the same period last year, which was considered a good month. The same feature may be said to characterize itself with regard to the Parkend and Coleford valleys as conveyed by the Severn and Wye Company. The coal item is 16,553, as against 14,467 tons in 1866. Iron ore, 6308; iron, 2696; stone, 1354; and sundries, 4828; showing a loss of 270 tons. If any more striking proof were required in support of what was said last week under this heading in connection with the reduction of coal in per ton in the month of May on this and past years, the position of the coal trade as noticed above is sufficient.

Although the late Mr. Crawshay, of Caversham Park, was but little known in the Forest of Dean, he having very seldom visited the district of late years, nevertheless, the day of his burial (Aug. 9) was observed, there being no funeral service in the church. The late gentleman was introduced to the Forest of Dean by Mr. Moore Teague, a Forest celebrity, and soon afterwards the Cinderford iron furnaces were set in motion in a manner and spirit which showed that Mr. Crawshay not only possessed capital but genius likewise—in fact, the great secret of his success was good luck, combined with practical knowledge and sound wisdom, and while some of the districts in Wales owe their development to his sagacity and speculative spirit, the gradual growth of trade in the Forest of Dean may, in a great measure, be attributed to the liberal manner in which he speculated on his wealth.

The Iron Trade is still manifesting the same pleasing symptoms as have characterised it since the midsummer meeting, and although prices are not advanced, the hopefulness of the future continues. Indeed, the desired alteration must soon come, as the trade appears to be in all quarters improving. The manufactured branch shows greater activity than for some time past, and although it was rumoured that in consequence of the second reduction the men employed at the Cinderford forge, or at least a portion of them, would turn out. They had sufficient good sense to submit, the real facts of the case as necessitating this course was that a higher scale of wages was given than at any other works, and hence Mr. Russell found it necessary to take this step.

The Tin-plate Trade continues very brisk, and, as last week, every available hand meets employment. A good demand is also made just now for forest stone, and the fine weather enables the quarry masters to push their work with the utmost vigour. The country around the Forest is very charming, especially when seen from points commanding a view of the vale of the severn. The harvest has already commenced, and the golden grain in many parts is ready to be housed. There is every prospect of a good average yield.

On Wednesday a fatal accident occurred at Mr. H. Crawshay's Lightmoor Collieries. A man named Samuel Mercy was just about leaving his work when a quantity of earth fell upon him from the roof of the place where he had been engaged in his labour, killing him instantly. His son, a little lad, was the only person near when the accident occurred. He was a steady man, and leaves a wife and several children to lament his untimely end.

TRADE OF THE SOUTH WALES PORTS.—The returns for the month of July and the corresponding month of last year were as follows:

	EXPORTS OF COAL.	July, 1866.	July, 1865.
Cardiff	Tons 160,766	..... Tons 160,224	
Newport	34,027	..... 29,142	
Swansea	44,441	..... 46,771	
Llanelli	17,274	..... 18,841	
SHIPMENTS COASTWISE.		July, 1866.	
Cardiff	Tons 85,465	..... Tons 77,987	
Newport	81,910	..... 65,456	
Swansea	32,320	..... 23,638	
Llanelli	24,146	..... 18,676	

The largest quantity of steam coal sent to one place from Cardiff was 14,343 tons to Malta, Monte Video 7785 tons, St. Nazaire 6987 tons, Constaadt 6336 tons, Singapore 5343 tons, Quebec 5036 tons, Havre 6010 tons. Newport sent 4651 tons to Aden, 2102 tons to Bermuda, 2178 tons to Singapore, and 2004 tons to Gibraltar. Gensans sent to Algiers 1892 tons, Caen 2872 tons, Dieppe 1670 tons, Havre 1420 tons, Mala 1438 tons, Rochele 1585 tons, St. Thomas 1792 tons, Seville 1674 tons, S. Malo 1438 tons, and St. John's 1230 tons. From Llanelli there were sent 250 tons to Caen, 1100 tons to Cherbourg, 2000 tons to Dieppe, 1000 tons to Rouen, and 1650 tons to St. Malo.

Cardiff exported 15,174 tons of iron and 2637 tons of patent fuel; Swansea 1670 tons of iron, and 12,239 tons of patent fuel. Newport exported 10,536 tons of iron, of which Russia took 4889 tons, New York 1169 tons, Quebec 1120 tons, and San-diego 765 tons.

THE PARIS EXHIBITION—No. XVI.

[FROM OUR OWN CORRESPONDENT.]

Some surprise seems to have been excited in England that complaints of national non-inventiveness should have been made by an Englishman, with no other grounds for his conclusions than a cursory examination of the several Courts of the Paris Exhibition; yet it is not Englishmen alone who are thoughtless enough to complain, with no better bases for their arguments, of the retrogression of the countries to which they belong. The English dissatisfaction is readily accounted for, or, at least, the opinion is very prevalent that the statement is not entirely disinterested on the part of those who make it. It is said that the South Kensington clique are endeavouring to make the Paris Exhibition provide them with a pretext for finding situations for a batch of their protégés, who are at present rather too numerous to be convenient, and that the idea has suggested itself of raising the cry that England is behind all other nations, in order to attempt to justify the declaration of the insufficiency of technical education in England. Now, the attempt to assimilate English and French or Belgian institutions must prove abortive, because the circumstances existing in England and on the Continent are totally different. Fortunately we cannot, in England, compel an employer to take any servants the Government may choose to select for him, and no Englishman would exactly admire the introduction of that system, even if it were provided that a jury should decide whether the professed servant were not the best suited to his requirements. Yet, in the absence of this system, no South Kensington technical education scheme could by any chance succeed. One attempt has already been made in the same direction in the establishment of the Royal School of Mines, many of the most competent students of which have failed to obtain so high a remuneration for their labour as an ordinary mechanician; and if this be the state of affairs whilst the school has scarcely a dozen students, and has all the aid which Government can afford it, in the hope of employing its graduates, what would be the result of extension? It would almost ruin the School of Mines to send them 100 students a-year for three years, because it would create nearly 300 helpless graduates—for, whilst the Government could not provide labourer's wages for more than 5 per cent, of them, the remainder would be in the unhappy position of being without Government salary, whilst no private individual would employ them, and the School would be thenceforward shunned by all who hoped to earn a honest livelihood. Any technical education scheme emanating from the South Kensington party could only create equally helpless graduates, and for this reason—an attempt to force such a project upon Englishmen should be strenuously opposed.

The complaint which has given rise to the remarks has arisen with respect to the METALLURGICAL PRODUCTS OF BELGIUM, certain Belgian visitors to the Champs de Mars having returned to their native country with the idea that Belgium was literally lost as a metallurgical country, and that, therefore, nothing remained to them but to deplore their unhappy condition, and weep for their former greatness. But, whilst in England it is the professional party who weep, the reverse is, happily, the case in Belgium; Prof. F. KRANS, who so ably fills the chair of metallurgy in the University of Louvain, having undertaken, in a most interesting pamphlet, published by M. Guyot, of Brussels, to prove that the lamentations are at present unjustified, and are long likely to continue so. The Professor remarks that the first Belgian visitors to the metallurgical galleries were struck with the prodigies exhibited by foreigners in connection with the iron and steel manufactures. Seeing nothing in the Belgian compartment to vie with the extraordinary pieces of iron and steel work, revealing new ideas and an entirely distinct class of workmanship, they expressed disappointment at not seeing Belgium so well represented as the neighbouring countries, amongst which she had so long taken the lead in the way of change and of progress. That there are any grounds for this great disappointment Prof. KRANS disproves, and observes that Belgium is well able to hold a good position amongst the iron-producing nations of the world, without exhibiting either monster canons or enormous armour-plates, and that they can well afford to leave the military powers to measure their strength in that direction, although they are ready to compete with them in any other branch of the iron trade. After repeated visits, and an attentive study of the exhibitions made by the several countries, he concludes that the best course is to adopt the views of those who, without any display of over-alarm, and without any failure to recognise the many merits of the Belgian products, think that if since 1862 Belgium has not gone back, she may not have advanced so rapidly as other nations. To what cause is that due? It is a question, say many, of money to permit the establishment of powerful machine-tool shops, and thus to extend operations. Now is this, asks Prof. KRANS, a sufficient reason? There is much room to doubt it; without believing the Belgians to be as rash in enterprises of this kind as the English, they would yield nothing to any other nation. Belgians are neither timid nor malicious, as the development of the industrial resources of the country which has already taken place amply proves. If for the

moment the purse-strings of the capitalist are difficult to unfasten, is it not because they have had so much sad experience to make them circumspect? Their prudence, then, is certainly not to be blamed, more especially as it cannot be doubted that there would be no difficulty, even at present, of finding ample capital for the establishment of any necessary works which might offer a fair prospect of success. Prof. KRANS remarks that it will be found that all the great improvements in France are due to the great knowledge and judgment of those who have taken the management of the works, and he urges that, as there is no lack of the requisite engineering skill in Belgium, they must look to other causes, and he concludes that the lack of extension is, in a great measure, due to the limited market, which compresses their operations, and prevents great efforts being made to supply uncertain markets. Belgium has also been without the advantage of international exhibitions within her territory, and has thus had less opportunity of displaying her manufacturing resources to the best advantage.

SEPARATION OF SILVER FROM LEAD—NEW PROCESS.

It is well known that the affinity of zinc for silver is greater than that of lead, yet the various attempts which have been made to take advantage of this property in connection with the extraction of silver from lead have not been attended with commercial advantage. The causes of failure have probably been attributable to the large quantity of zinc which has remained in the lead as prepared for the market; the treatment of scumings composed of lead, silver, and zinc have, of course, offered equal difficulties. To remove these obstacles is the object of the invention of Mr. FREDERICK CORDURIER, of Toulouse, the two characteristic features of which are, on the one hand, the employment of superheated steam to oxidise the zinc, and leave the lead and silver unattacked; and, on the other hand, the forcing of oxides of zinc and of lead through a bath of lead, from which the silver is to be separated. The lead to be treated having been well melted, he subjects it for a time to increased heat, after which he adds to 100 parts of lead about 2 parts or more of zinc, taking care to stir it well in the midst of the bath in fusion, which is then left to itself, until the time when the surface begins to coagulate. This time should not be lost; the melted zinc taking possession of the silver to produce an alloy less dense and less fusible than the lead rises to the surface and begins to coagulate, while all the lead preserves its liquidity; it is now that the scumming must be performed, care being taken to remove the least possible amount of lead, but leaving none of the alloy in the bath. To remove the last traces of zinc which remain in the bath, he re-heats the bath, and leads superheated steam into it. When the superheated steam is to be introduced he covers the bath, and the steam is conveyed to the bath by a pipe fitted to the cover and dipping into the bath. The zinc oxidises under the action of the oxygen of the decomposed steam, and the oxide of zinc floats on the surface in the form of powder, which he seizes off, after which the lead may be allowed to cool for the market. The hydrogen which is engorged may draw off particles of oxide, which he then collects in a condenser.

In practice it is found that the scumings contain lead, silver, and zinc, which they cannot be completely freed from zinc by a simple distillation in a close vessel: this distillation would, moreover, have the inconvenience of allowing some of the silver to be lost. The best means of effecting a complete separation consists in oxidising the zinc in the midst of the melted alloy by a current of hot air, preferably by a jet of superheated steam, which is admitted at a more or less considerable pressure by employing a condenser, if required. The oxidised zinc, as well as a certain quantity of lead having an earthy appearance, are easily separated from the argenticiferous lead in fusion by scumming or equilibration. The lead is sent to be submitted to cupellation, and the oxides are regenerated, but they are previously made to traverse a bath of lead, in which they give off any silver which they may have drawn off with them, as well as tracts of oxide of lead. It will thus be seen that whilst the superheated steam oxidises the zinc the lead and silver are not attacked, whilst the forced passage of the oxides in the bath of lead allows the regenerating of the zinc for use in the next operation.

Another part of Mr. Cordurié's invention, relating to the treatment of litharge, is based on the same principle of the forced passage in a bath of lead. Argentiferous lead submitted to cupellation produces rich litharge. He removes the silver which the litharge contains by making it traverse a bath of lead whilst the litharge is in fusion. The litharge which floats on the top is marketable, and the lead having become argentiferous is submitted to cupellation.

GREEN SLATES.

GRASS SLATES OF ANY SIZE, and of the CHOICEST COLOUR and QUALITY, can now be OBTAINED from the DOROTHEA WEST SLATE COMPANY (LIMITED), CARNARVON.

The "CHARING CROSS HOTEL," "STAR AND GARTER HOTEL" (Richmond), "LONDON-BRIDGE HOTEL," and many other public buildings, are covered with these elegant slates.

Orders will be executed in regular succession.

Apply to Mr. THOMAS HARVEY, General Manager, 9, Segontium-terrace, Carnarvon, or 33, King-street, Cheapside, London.

BOWLING IRON COMPANY (BRADFORD, YORKSHIRE).

BEST CRUCIBLE CAST-STEEL TYRES, AXLES, CRANK AXLES, BOILER PLATES,

Also COG WHEELS, and other CASTINGS.

This company is prepared to furnish the above-mentioned articles in CAST STEEL of a very superior quality, made principally from their own well-known

"BOWLING IRON."

Also BOWLING WROUGHT-IRON SOLID WELDLESS TYRES, of any size and to any section.

BAGILLIT OIL COMPANY (LIMITED) FLINT.

MANUFACTURERS OF BLACK GREASE FOR COLLIERIE WIRE ROPES, TRAMS, WAGONS, &c., £5 PER TON.

TORCH AND LAMP OIL, 1s. PER GALLON (Casks free).

LUBRICATING OIL, 1s. PER GALLON (Casks free).

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BEST CHARCOAL IRON AND STEEL WIRE ROPES

Also HEMP ROPES, for MINING PURPOSES.

ELLIS LEVER, WEST GORTON WORKS, MANCHESTER.

CHAPLIN'S PATENT STEAM ENGINES AND BOILERS OF EVERY CLASS, FOR SALE OR HIRE, at the ENGINEERING WORKS,

No. 19, CORNWALL ROAD, LADBETH, LONDON.

(Opposite Waterloo Railway Station.)

THE SEACOMBE FORGE RIVET AND BOLT COMPANY

MANUFACTURERS OF BOLTS, RIVETS, WASHERS, COACH SCREWS, SPIKES, SET PINS, TIE RODS, COTTER PINS, &c.; ALSO,

ENGINEERS' AND SHIPBUILDERS' FORGINGS, SMITHS' WORK, and every description of SHIPS' FASTENINGS.

WORKS, —SEACOMBE, NEAR BIRKENHEAD.

ROCHSOLES GAS COAL.

Yielding 12,000 cubic feet of gas per ton.

Price, in trucks, Airdrie Station, 25s. per ton; and 27s. 6d. f.o.b. Glasgow, or East Coast of Scotland. For analysis, &c., apply to

JAMES STRUTHERS, ROCHSOLES COLLIERY, AIRDRIE.

THE CORNWALL BLASTING POWDER COMPANY, ST. ALLEN GUNPOWDER MILLS, TRURO.

MANUFACTURERS OF PATENT BLASTING POWDER, ORDINARY GUNPOWDER, and WATERPROOF SAFETY BLASTING CARTRIDGES.

THE CORNWALL BLASTING POWDER COMPANY SOLICIT PARTICULAR ATTENTION to their PATENT BLASTING POWDER, which has now been fully tested by time, and the growing estimation in which it is held by working men proves its great superiority over ordinary gunpowder.

It possesses the following advantages:—

Its WEIGHT being about TWENTY-FIVE PER CENT. LESS than ORDINARY GUNPOWDER, and EQUAL in STRENGTH, bulk for bulk, an IMPORTANT SAVING is EFFECTED on the score of CONSUMPTION.

It creates, on explosion, only about ONE-HALF as much SMOKE as ORDINARY GUNPOWDER, and this smoke being of a lighter nature soon passes away, and an IMPORTANT SAVING is thus EFFECTED on the score of TIME.

It is ADAPTED to ANY CLIMATE, DOES NOT BECOME WASTEFUL BY

EXPOSURE to the ATMOSPHERE, is NOT MORE DANGEROUS in use than ORDINARY GUNPOWDER.

Testimonials forwarded on application.

STEAM-BOILERS made by WILLIAM WILSON, LILYBANK

BOILER WORKS, GLASGOW, on the most improved principles, for home

and export. All boilers made of the best material and workmanship, proved and warranted tight under a high pressure, and delivered at any railway station or shipping port in the kingdom at moderate rates. Lithograph of boiler rewarded post-free on application.

ROBERT LIBBY AND SON, MINE AND SHAREDEALERS, &c., CAMBORNE, CORNWALL.

RAILWAY WAGON WORKS, BARNSLEY.

M E S S R S . G . W . A N D T . C R A I K
ARE PREPARED TO
SUPPLY COAL AND COKE WAGONS
OF EVERY DESCRIPTION.

Either for cash, or by preferred payments through wagon-leasing companies.

WAGONS PROMPTLY REPAIRED.

W H E A T L E Y K I R K ,

8, ESSEX STREET, MANCHESTER.

Twenty-five years' experience as

VALUER, AUCTIONEER, AND AGENT

for the purchase or sale of

MILLS, WORKS, MINES, ESTATES, LAND, BUILDINGS, STEAM

ENGINES, ENGINEERS'

SALE BY AUCTION, AT
REGENT IRONWORKS, BILSTON.

MR. J. GETTINGS has received instruction from the trustees of Messrs. A. BEARD and SONS, and T. S. SMEETH and Co., TO SELL the whole of their LOOSE STOCK and WORKING MATERIALS, on Monday and Tuesday, the 19th and 20th, and on Monday, the 26th August.

The STOCK consists of 190 tons of first-class PIG-IRON; 500 tons of NEW and OLD CASTINGS, WROUGHT and SCRAP IRON, chilled and grained ROLLS, bar and billet ROLLS; large LATHE, with speeds, poppets, &c.; TWO small direct-action ENGINES; CIRCULAR SHEARS; 150 tons FLOOR PLATES, scales and weights; AVERY'S WEIGHING MACHINE.

Puddlers' and millmen's tools, blacksmiths' tools, bellows, anvils, quantity of steel, bulldog and tap cinder, calcined pottery, mine, fire-bricks, and clay.

About 10 tons of hot and cold neck GREASE; about 20 tons of best and common OILS; quantity of Russian TALLOW; 6 in., 4½ in., and 3 in. WAGONS, CARTS, and TROLLEYS; 14 WOOD and IRON CANAL BOATS; PUDDLING MACHINES.

The whole of the OFFICE FURNITURE, FIRE-PROOF SAFES, and a large quantity of sundries.

Sale to commence at Eleven o'clock each day, to the minute.

Catalogues may be had on and after Tuesday, 13th inst., from the Auctioneer, Albert Cottage, Bilston; and from Messrs. BROWN and FELLOWS, Solicitors, Bilston; from Messrs. DUGNAN, LEWIS, and LEWIS, Solicitors, Walsall; and Mr. G. T. GREEN, Accountant, 19, Temple-street, Birmingham.

IN the course of the month of FEBRUARY, 1868, on a day to be fixed hereafter, will be PUBLICLY SOLD, to the highest bidder, by the COMPANY FOR THE PROMOTION OF OPENING MINES IN NETHERLANDS INDIA, in liquidation, and after future approval by Government,

THE CONCESSION FOR THE WORKING OF THE COAL MINES AT BANJOE-IRANG (KALANGAN), situated in the residency south, and eastern division of BORNEO, together with the WORKS at the MINES, erected by the company, in such condition as they may be found on being taken over.

Information can be obtained at Amsterdam, from Messrs. HEERKEN and Co., whilst the original documents are kept for investigation at the office of Messrs. TIEDEMAN and VAN KERCHEN at this place. J. J. BLANCKENHAGEN,
G. A. DE LANGE,
D. JANETTE WALLEN

Batavia, 12th April, 1867.

ROSSMORE SLATE COMPANY (LIMITED).

BY TENDER.

TO BE SOLD, BY TENDER, all the ESTATE and INTEREST of the ROSSMORE SLATE COMPANY (LIMITED), of and in the LANDS and PREMISES following—that is to say,

THE LANDS OF ROSSMORE, in the parish of DURRUS, barony of west division of WEST CARBERY, county of CORK, under agreement for lease from the Earl of Bandon for the unexpired term of 30 years, from the 25th March, 1863, with full power to raise and obtain all SLATES, OCHRES, MINERALS, and MINERAL SUBSTANCES, of every kind, subject to a royalty of 1-24th for the first four years, 1-20th for the remaining 26 years, with a minimum rent of £10 per annum. The above lands have a seaboard of several miles.

Also, all the ESTATE and INTEREST of the above company of and in all that PARCEL of the LANDS of SKULL AND ARDMANAGH situated in the parish of SKULL, barony of WEST CARBERY, county of CORK, and containing 134A. 3R. 25P. statute measure, held under lease from the Ecclesiastical Commissioners for Ireland for the unexpired term of 31 years, from the 12th May, 1864, with power to raise and get all OCHRES, EARTHS, SLATES, MINERALS, and MINERAL SUBSTANCES, subject to a royalty of 1-16th part thereof, and a minimum rent of £50 per annum.

Tenders for the purchase of each of the above properties, according to the estate of the company in them, to be sent in on or before the 29th day of August, to Mr. J. T. HALL, engineer, 4, Clayton-square, Liverpool, the liquidator of the company duly appointed; or to Mr. W. W. DUFFIELD, 41, Lord-street, Liverpool, solicitor.—Liverpool, 5th August, 1867.

ALSTON, CUMBERLAND.

FOR SALE, BY PRIVATE BARGAIN, the WHOLE INTEREST of the present shareholders in

BIRCHY BANK MINE.

The take extends in length 600 fathoms adjoining the Rodderupell Mining Company's ground on the west, and in breadth 20 fathoms north of the north vein, and 20 fathoms south of the south vein.

Application to be made to Mr. JOHN PEART, Mining Agent, Alston; or Mr. INGLEDEW, Esq., Solicitor, Dean-street, Newcastle-on-Tyne.—July 29.

FIRST-CLASS SLATE AND SLAB QUARRY. FOR SALE, in MERIONETHSHIRE.

VIN the VEIN more than ONE MILE in LENGTH, and so intersected by valleys that four or five quarries might be all working at the same time. The slate a good blue colour, and free from pyrites, spots, and stripes. The vein on the same range as the ABERLLEFENNY VEIN, but more than twice the width of that celebrated vein. Already proved by two levels, and excellent slates made. Slabs of the largest size could be at once manufactured. The top of the vein has been removed for a large area, and found to consist only of about 2½ feet of soil, and therefore the slate vein can be worked as an OPEN QUARRY. Room for six or eight galleries, and ample space for waste. Water in abundance for all kinds of appliances. Two miles distant from a railway. Satisfactory reasons for the disposal of the property will be given.

For particulars, apply to M. A. MOON, Esq., F.G.S., Whitehaven.

A RED ASH COLLIERY FOR SALE, the quality of the COAL being the BEST in SOUTH WALES for DOMESTIC PURPOSES (known as the celebrated MYNNYDDYSLWN VEIN).

The colliery is now in full working order, capable of yielding daily 60 tons of large coal. Such an investment is rarely to be found, this vein being nearly worked out in the county of Monmouth. A respectable party will be treated with on liberal terms. Satisfactory reasons can be given by the present proprietors for wishing to dispose of their colliery.

For full particulars, apply to "A. B." Post Office, Newport, Monmouthshire.

FOR SALE, and may be seen at the Ashburton Mines, ONE 56 in. PUMPING ENGINE, with TWO 11 ton CORNISH made BOILERS. ONE 40 in. PUMPING ENGINE, only made a short time, and as good as new, with an 11 ton BOILER. A 24 in. WHIM ENGINE, with stamps attached. ONE 11 ton BOILER. Several WATER-WHEELS of various sizes, one with a very excellent drawing machine attached. Pumps and materials of all sorts and sizes.—Application may be made to Mr. W. MATHEWS, engineer, Tavistock; or an be seen on application to people in charge of the mine.

THE COLCHARTON COPPER MINING COMPANY (LIMITED), TAVISTOCK, DEVON.

Capital £7500, in 3000 shares of £2 10s. each.

Deposit, 5s. per share on application, £1 on allotment, and the remainder at call'. No call to exceed 10s. per share, or to be made at less intervals than three months.

This mine, situated in one of the richest mineral districts in Devon, and in immediate contiguity to the Great Devon Consols and the Bedford United Mines, two of the most productive copper mines in England, offers a favourable opportunity for investment.

It is confidently believed by competent judges that this mine will be as productive as any in the neighbourhood, the lodes which have been so remunerative in the Great Devon Consols and the Bedford United Mines passing through the property.

All the costly work on the mine has been carried out by the late company, and this company has been formed for the purpose of further carrying on and developing the mine. The works are already in progress, and being carried on vigorously.

Two-thirds of the capital have been subscribed by shareholders in the late company, and the unallotted shares are now offered to the public.

Applications, accompanied with cheque or Post-office Order for amount of deposit, may be sent to the secretary, Mr. WILLIAM HUGHES, 30, Gracechurch-street, E.C., from whom any further information may be obtained.

THE OVENS GOLD QUARTZ MINES COMPANY (LIMITED).

Registered with Limited Liability, 25th April, 1867.

Capital £30,000, in 30,000 shares of £1 each, fully paid on allotment, of which shares 6000 are reserved as part payment to the vendor for the estate.

2500 are already applied for, and the remaining 21,500 will be allotted to the public according to priority of application.

CHAIRMAN.—The Hon. JAMES TOBIN, Neville-street, Onslow-square, S.W.

BANKERS.—The London and County Bank, 21, Lombard-street, and town branches.

BROKER.—John Inchbald, Esq., 2, Cophall-court, City, and Stock Exchange OFFICES, 134, FENCHURCH STREET, CITY.

This company is formed for the purpose of working the famous estate, called "The Owens," on the promontory known as The Owens Gold Fields, jutting out five miles into the Atlantic Ocean, near Lunenburg Harbour, Nova Scotia. Thirty-three bodies of auriferous quartz have already been discovered on the property, yielding silver as well as gold, assays of which, by Messrs. Johnson and Matthey, Mr. Squires, and Mr. Robbins, prove the average yield to be greater than that of any other gold mines yet introduced to the public.

The gold mines of Nova Scotia are now making larger returns per man per annum than any other gold mines in the world, and the directors submit the following certificate of the Chief Commissioner of Mines of Nova Scotia, as the best evidence of the prospect of success of this company.

CERTIFICATE.
"I have no hesitation in saying, from my own knowledge and personal inspection, that one of the most inviting fields for the successful prosecution of gold quartz mining is 'The Owens Mining District.' The gold found in the surface alluvium, and the fine specimens of gold-bearing quartz, which I purchased and sent to the Paris Exhibition, are conclusive evidence of the rich yield that will be realised from capital invested in the Owens under careful management."

P. S. HAMILTON, Chief Commissioner of Mines.

"Halifax, May 15, 1867."
Applications for prospectuses and shares may be made to the directors, bankers, and brokers. Reports, views of the estate, and a quantity of gold quartz, with assays of same, may be seen at the offices, 134, Fenchurch-street; also at Mr. ROBBINS'S, 572, Oxford-street, W.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the HALLENBEAGLE MINING COMPANY.—Notice is hereby given, that all CREDITORS of the ABOVE-NAMED COMPANY are REQUIRED on or before the 27th day of August instant, to SEND IN THEIR NAMES AND ADDRESSES, and the AMOUNTS and PARTICULARS of their SEVERAL CLAIMS on the said company, to WILLIAM MICHELL, Esq., the Registrar of the said Court, at Truro. Dated Registrar's Office, Truro, August 15, 1867.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the HALLENBEAGLE MINING COMPANY.—By an Order, made by His Honor the Vice-Warden of the Stannaries, in the above matter, dated the 14th day of August instant, on the petition of Edward King, of 22, Austin Friars, in the City of London, a contributory of the ABOVE-NAMED COMPANY, it was ORDERED that the said HALLENBEAGLE MINING COMPANY should be WOUND-UP by this Court under the provisions of the Companies Act, 1862.

JOSEPH ROBERTS, Truro;
Agent for Messrs. R. W. Childs and Batten, 25, Coleman-street, London
(Solicitors for the Petitioner).
Dated Registrar's Office, Truro, August 15, 1867.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the NORTH PORTHILL MINING COMPANY.—Notice is hereby given, that ALL CREDITORS of the ABOVE-NAMED COMPANY are REQUIRED on or before Wednesday, the 28th day of August instant, to SEND IN THEIR NAMES AND ADDRESSES and the AMOUNTS and PARTICULARS of their SEVERAL CLAIMS on the said company to WILLIAM MICHELL, Esq., the Registrar of the said Court, at Truro.—Dated Truro, August 14th, 1867.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the NORTH DOLCOATH MINING COMPANY.—Notice is hereby given, that ALL CREDITORS of the ABOVE-NAMED COMPANY are REQUIRED on or before Wednesday, the 28th day of August instant, to SEND IN THEIR NAMES AND ADDRESSES and the AMOUNTS and PARTICULARS of their SEVERAL CLAIMS on the said company to WILLIAM MICHELL, Esq., the Registrar of the said Court, at Truro.—Dated Truro, August 14th, 1867.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the NORTH DOLCOATH MINING COMPANY.—By an Order made by His Honor the Vice-Warden of the Stannaries in the above matter, dated the 10th day of August instant, on the joint petition of William Harvey, Henry Whittford, John West, William West, William Rawlings and William Husband, carrying on business at Hayle, within the said Stannaries, under the style or firm of Harvey and Co., creditors of the said company, it was ORDERED that the said NORTH DOLCOATH MINING COMPANY should be WOUND-UP by this Court under the provisions of the Companies Act, 1862.

HODGE, HOCKIN, AND MARRACK, Solicitors, Truro
Dated Truro, August 10, 1867.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the WHEAL NORTH GRYLLS MINING COMPANY (LIMITED).—Notice is hereby given, that ALL CREDITORS of the ABOVE-NAMED COMPANY are REQUIRED, on or before Wednesday, the 28th day of August instant, to SEND IN THEIR NAMES AND ADDRESSES and the AMOUNTS and PARTICULARS of their SEVERAL CLAIMS on the said company to WILLIAM MICHELL, Esq., the Registrar of the said Court, at Truro.—Dated Truro, August 14th, 1867.

In the Court of the Vice-Warden of the Stannaries.
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the TIN RE PAR CONSOLS MINE.

TO BE SOLD, pursuant to an Order made in a Cause at Polkinghorne v. Hutchinson and Others, dated the 23d day of July last, at the Registrar's Office, Truro, on Wednesday, the 28th day of August instant, at Twelve o'clock at noon precisely,

2 (6400) PARTS OR SHARES of the defendant, J. W. Hutchinson.
1 (6400) PART OR SHARE of the defendant, Ada Joseph.
6 (6400) PARTS OR SHARES of the defendant, Thomas Lucas.
4 (6400) PARTS OR SHARES of the defendant, John Page.
20 (6400) PARTS OR SHARES of the defendant, J. Paul.
50 (6400) PARTS OR SHARES of the defendant, William John Sharpe.
5 (6400) PARTS OR SHARES of the defendant, Richard Fox;
20 (6400) PARTS OR SHARES of the defendant, John Grimes.

HODGE, HOCKIN, AND MARRACK, Truro
(Agents for R. W. Head, plaintiff's solicitor, Exeter).

Dated Registrar's Office, August 15, 1867.

In Chancery.

SISTON AND MANGOTSFIELD, GLOUCESTERSHIRE.

TO BE SOLD, pursuant to an Order of the High Court of Chancery, made in a Cause "BUSH V. PETERSON," with the approbation of the Vice-Chancellor Sir RICHARD MALINS, the Judge to whose Court such Cause is attached; in several lots, by Messrs. ALEXANDER and DANIEL, the persons appointed by the Judge for the purpose, at the King's Arms Inn, Kingswood Hill, in the county of Gloucester, on Tuesday and Wednesday, the 17th and 18th days of September, 1867, at One o'clock in the afternoon on each day.

SISTON.
Several FREEHOLD MESSUAGES, COTTAGES, GARDENS, and valuable pieces of LAND, including the Maypole Inn and the Horse Shoe Inn, upon the Siston Warren, in the parish of Siston, in the county of Gloucester, and the unenclosed warren or common, containing about 74 acres, with the warren's house, rabbit warren, COAL PIT, BUILDINGS, and SHAFTS, and the MINERALS under the warren, both enclosed and unenclosed, and Midland Branch Railway Company. The REVERSION IN FEE, expectant on the decease of lives, of several MESSUAGES, COTTAGES, and LANDS, including the Black Horse Inn, upon Siston Warren. A most compact and valuable ESTATE, comprising FARM-HOUSE and HOMESTEAD, a dwelling-house and malt-house, orchards, and arable and pasture lands, in the parish of Siston aforesaid, and known as the Stumps' Cherry Orchard and Sartain's Estate, and containing altogether about 78 acres. Several SHARES in the MINERALS under an estate in the said parish of Siston, called Brook Farm, containing about 71 acres of land. A valuable piece of PASTURE LAND, called Thiley's Ground or Griffin Ground, situated near the Griffin Inn, in the said parish of Siston, containing about seven acres, and now or lately occupied by Mr. Edward Bigwood.

MANGOTSFIELD.
THREE COTTAGES, and a shed or smithy's shop, in the street of Mangotsfield, in the said county of Gloucester. The REVERSION IN FEE, expectant on the decease of a lady aged 65 years, in a valuable FREEHOLD FAMILY RESIDENCE, with the garden, stable, and offices, known as Mangotsfield House, in Mangotsfield aforesaid. A FOURTH PART of the RECTORIAL TITHES CHARGE, arising out of lands in Mangotsfield, producing annually the fixed sum of £19 13s. 4d. The TITHES CHARGE, commuted at £2 10s. 4d. per year, payable out of lands in Mangotsfield aforesaid, occupied by Mr. Chas. Payne.

All the property, except Mangotsfield House, may be viewed on application to the respective tenants, and Mangotsfield House may be viewed by cards, which will be supplied on application to the vendor's solicitor.

Particulars and conditions, with plans, may be had, gratis, at the place of sale; of the Auctioneers, Broad-street, Bristol; Mr. JAMES MARMONT, Surveyor, Corn-street, Bristol; of the following solicitors in London:—Messrs. MEAD and DAUBENY, 2, King's Bench-walk, Temple; Messrs. MEREDITH and LUCAS, 8, New-square, Lincoln's Inn-fields; Messrs. POOLE and GAMLEN, 3, Gray's Inn-square; Messrs. WALTER and MOJEN, 8, Southampton-street, Bloomsbury; Messrs. MATTHEWS and GRETHERAM, 68, Lincoln's Inn-fields; Messrs. NEWBORN and EVANS, Nicholas-lane, Lombard-street; and of the following solicitors in Bristol:—Messrs. STANLEY and WASBROUGH, Corn-street; Mr. CHAS. HARRIS, Small-street; Mr. STAMFORD P. PARKER, Nichols-chambers; Mr. HENRY H. BECKINGHAM, Broad-street; and of the vendor's solicitor, Mr. GEORGE F. FOX, 35, Corn-street.

FREDERICK ERASMUS EDWARDS, Chief Clerk.

Dated this 7th day of August, 1867.

BICKFORD'S PATENT SAFETY FUSE
Obtained the PRIZE MEDALS at the ROYAL EXHIBITION of 1851; at the INTERNATIONAL EXHIBITION of 1852, in London; at the IMPERIAL EXHIBITION held in Paris, in 1855; and at the INTERNATIONAL EXHIBITION, in Dublin, 1865.

BICKFORD, SMITH, AND CO.,
of TUCKINGMILL, CORNWALL, MANUFACTURERS of PATENT SAFETY-FUSE, having been informed that the name of their firm has been attached to fuses not of their manufacture, beg to call the attention of the trade and public to the following announcement:-
EVERY COIL OF FUSE MANUFACTURED by them has TWO SEPARATE THREADS PASSING THROUGH THE COLUMN OF GUNPOWDER, and BICKFORD, SMITH, AND CO. CLAIM SUCH TWO SEPARATE THREADS AS THEIR TRADE MARK.

PRENTICE'S GUN COTTON COMPRESSED CHARGES FOR MINING AND QUARRYING.
The principle thus introduced insures the most perfect attainment of the points essential for the safety and stability of the material, at the same time securing the highest explosive power. A charge of any given size exerts six times the explosive force of gunpowder.
The enormous power confined in a short length at the bottom of the hole allows of a much greater amount of work being placed before each blast, saving considerably in the labour of drilling.
Charges are made of every diameter required, the length varying with the diameter. Any number may be placed in a hole. Each charge is fully equal to one-fifth of a pound of powder.
PRICES.
Per case, containing 500 charges of any diameter 35s.
Per half case, containing 250 charges of any diameter 18s.
Per quarter case, containing 125 charges of any diameter 9s.
TERMS.—CASH.

MANUFACTURED BY
THOMAS PRENTICE AND CO., 82, GRACECHURCH STREET, LONDON.
WORKS, STOWMARKET.
LONDON AGENT.—MR. THORNE.

JOHN AND EDWIN WRIGHT,
PATENTEES.
(ESTABLISHED 1770.)
MANUFACTURERS OF EVERY DESCRIPTION OF IMPROVED

PATENT FLAT AND ROUND WIRE ROPES,
From the very best quality of charcoal iron and steel wire.
PATENT FLAT AND ROUND HEMP ROPES.
SHIPS' RIGGING, SIGNAL AND FENCING STRAND, LIGHTNING CONDUCTORS, STEAM PLOUGH ROPES (made from Webster and Horsfall's patent steel wire), HEMP, FLAX, ENGINE YARN, COTTON WASTE, TARPAULIN, OIL SHEETS, BRATTICE CLOTHS, &c.

UNIVERSE WORKS, MILLWALL, POPLAR, LONDON.
UNIVERSE WORKS, GARRISON STREET, BIRMINGHAM.
No. 2, OSWALD STREET, GLASGOW.
CITY OFFICE No. 5, LEADENHALL STREET, LONDON, E.C.

THOMAS TURTON AND SONS,
MANUFACTURERS OF
CAST STEEL for PUNCHES, TAPS, and DIES,
TURNING TOOLS, CHISELS, &c.
CAST STEEL PISTON RODS, CHAIN PINS, CONNECTING RODS, STRAIGHT and CRANK AXLES, SHAFTS and FORGINGS of EVERY DESCRIPTION.
DOUBLE SHEARSTEEL FILES MARKED T. TURTON.
BLISTER STEEL, SPRING STEEL, GERMAN STEEL, WM. GREAVES & SON.
Locomotive Engine, Railway Carriage and Wagon Springs and Buffers.

SHEAF WORKS AND SPRING WORKS, SHEFFIELD.
LONDON WAREHOUSE, 35, QUEEN STREET, CANNON STREET, CITY, E.C.
Where the largest stock of steel, files, tools, &c., may be selected from.

S. OWENS AND CO. (LATE CLINTON AND OWENS),
WHITEFRIARS STREET, FLEET STREET, LONDON, E.C.,
HYDRAULIC AND GENERAL ENGINEERS,
MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION FOR HAND, HORSE, WATER, OR STEAM POWER.

BORING TOOLS.
Boring Tools of every description, for Testing Ground and for Artesian Wells.

Portable Engines with Double Barrel, or other Pumps, on Hire or Purchase.

Improved Double-action Pumps.
Full information, Drawings, Price Lists, &c., relating to the above, and to Hydraulic Machinery of all descriptions—Crabs, Pulleys, Blocks, and Hoisting Tackle of every description—may be had on application.

DERRING'S PATENT ENGINE FOR TUNNELLING MINING, QUARRYING, and BLASTING in OPEN CUTTING.
A SAVING of THIRTY to SIXTY PER CENT. in labour effected where the cost of adit exceeds £6 per fathom.

TIME for DRIVING ADIT REDUCED FIFTY to SEVENTY-FIVE per cent.

"These drilling engines are in daily use at the zinc mines of the Vieille Montagne," &c.—Times, Dec. 24, 1866.

"One of these machines was shown to work in an exceedingly satisfactory manner upon hard granite."—Engineering, Dec. 21, 1866.

Particulars may be obtained of Mr. DERRING, or Mr. GROVER, 30, Duke-street, Westminster.

BASTIER'S CHAIN PUMP.
This patent pump is the MOST EFFICIENT in existence for LIFTING ANY QUANTITY of WATER from ANY DEPTH. One lifting from a depth of 170 ft. may be seen at work daily, on application to the SOLE LICENSORS.

MESSRS. J. JACKSON AND CO., ENGINEERS, 17, GRACECHURCH STREET, LONDON, E.C.

Who SUPPLY PUMPS and LICENCES.

Communications to Mr. Bastier, the patentee, to be sent to the same address.

AGENT FOR THE COUNTIES OF NORTHUMBERLAND AND DURHAM, YORKSHIRE, DERBYSHIRE, and NORTH STAFFORDSHIRE.

MR. THOMAS GREENER, MINING OFFICE, NORTHGATE, DARLINGTON.

AGENTS FOR SCOTLAND.

MESSRS. P. and W. MACLELLAN, 127 and 129, TRONGATE, GLASGOW.

CHEASE'S NEW AND IMPROVED PATENT BORING MACHINE.—In consequence of the various and IMPORTANT IMPROVEMENTS that an experience of several years has enabled the inventor to introduce into these machines, he can with the most perfect confidence recommend them for their increased DURABILITY, SIMPLICITY, ECONOMY, and SPEED to be attained by their adoption in DRIVING LEVELS or DRIFTS.

The inventor has made arrangements to supply them in any quantity, with warranty.

Orders executed according to their date of priority.

Address, EDWARD S. CHEASE, Tavistock, Devon.

IMMENSE SAVING OF LABOUR.
TO MINERS, IRONMASTERS, MANUFACTURING CHEMISTS, RAILWAY COMPANIES, EMERY AND FLINT GRINDERS, MCADAM ROAD MAKERS, &c., &c.

BLAKE'S PATENT STONE BREAKER,
OR ORE CRUSHING MACHINE,

FOR REDUCING TO SMALL FRAGMENTS ROCKS, ORES, AND MINERALS OF EVERY KIND.
It is rapidly making its way to all parts of the globe, being now in profitable use in California, Washoe, Lake Superior, Australia, Cuba, Chili, Brazil, and throughout the United States and England. Read extracts of testimonials:-

The Parry Mines Company, Parry Mines, near Bangor, June 6.—We have had one of your stone breakers in use during the last twelve months, and Captain Morcom reports most favourably as to its capabilities of crushing the materials to the required size, and its great economy in doing away with manual labour.

For the Parry Mining Company, JAMES WILLIAMS.

Ecton Emery Works, Manchester.—We have used Blake's patent stone breaker made by you, for the last 12 months, crushing emery, &c., and it has given every satisfaction. Some time after starting the machine a piece of the moveable jaws of about 20 lbs. weight, chilled cast-iron, broke off, and was crushed in the jaws of the machine to the size fixed for crushing the emery.

H. R. Marsden, Esq.

Alkali Works, near Wednesbury.—I at first thought the outlay too much for so simple an article, but now think it money well spent.

WILLIAM HUNT.

Welsh Gold Mining Company, Dolgelly.—The stone breaker does its work admirably, crushing the hardest stones and quartz.

WM. DANIEL.

Our 15 by 7 in. machine has broken 4 tons of hard whinstone in 20 minutes, fine road metal, free from dust.

Messrs. ORD and MADDISON, Stone and Lime Merchants, Darlington.

Kirkless Hall, near Wigan.—Each of my machines breaks from 100 to 120 tons of limestone or ore per day (10 hours), at a saving of 4d. per ton.

JOHN LANCASTER.

Ovoca, Ireland.—My crusher does its work most satisfactorily. It will break 10 tons of the hardest copper ore stone per hour.

WM. G. ROBERTS.

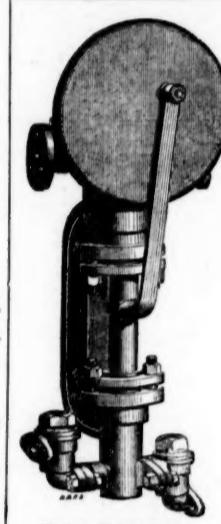
General Fremont's Mines, California.—The 15 by 7 in. machine effects a saving of the labour of about 30 men, or \$75 per day. The high estimation in doing which we hold your invention is shown by the fact that Mr. Park has just ordered third machine for this estate.

SILAS WILLIAMS.

For circulars and testimonials, apply to—

H. R. MARSDEN, SOHO FOUNDRY,
MEADOW LANE, LEEDS,
ONLY MAKER IN THE UNITED KINGDOM.

THE NEW PATENT INJECTOR,
FOR FEEDING BOILERS AND RAISING WATER FOR OTHER PURPOSES.
BY ROYAL LETTERS PATENT, No. 1539, DATED 2d JUNE, 1866.



FRONT ELEVATION.

Size.	Ram.	Stroke.	Approx. horse-power boiler supplied.	PRICES, DELIVERED IN LONDON:—			
				At 100 rev.	150 rev.	200 rev. p. min.	
No. 4	1½	3	15	115	172	230	£10 10
5	1¾	3	22	180	270	360	12 12
6	1¾	4	30	240	360	480	14 14
7	2¼	4	40	345	517	690	17 0
8	2¼	5½	55	475	712	950	19 10
9	2¼	5½	75	585	877	1170	22 10
10	2½	6¾	90	720	1080	1440	25 10
11	2¾	6¾	110	870	1305	1740	28 10
12	2¾	8	120	1030	1545	2060	31 10
*14	3	8	230	2450	3675	—	40 0
*16	3¼	8	460	4900	7350	—	55 0

* The two last are double-acting.

Steam Regulator Valves, and also Check Valves, specially made to suit these Engines, can be supplied.
TERMS Nett Cash on Delivery.

Each Injector is guaranteed to work efficiently, and any one failing to give satisfaction may be returned.

A CIRCULAR, WITH FULL EXPLANATION AND COMPARISONS, WILL BE SENT ON APPLICATION.

BROWN, WILSON, AND CO.,
No. 80, CANNON STREET, E.C.; AND VAUXHALL IRONWORKS, S., LONDON.

PARIS EXHIBITION, 1867.—AWARDED THE ONLY FIRST-CLASS MEDAL FOR CRUCIBLES.

SILVER MEDALS, CLASSES 40—47.

THE PATENT PLUMBAGO CRUCIBLE COMPANY.
SOLE MANUFACTURERS UNDER MORGAN'S PATENT,
BATTERSEA WORKS, LONDON, S.W.

These Crucibles (MORGAN'S PATENT) were the only ones to which Prize Medals were awarded in London, 1862; Dublin, 1865; New Zealand, 1865; and Oporto, 1865.

They have been in use for many years in the English, Colonial, French, and other Foreign Mints; the English, French, and other Arsenals; and have been adopted by most of the large Engineers, Founders, and Refiners at Home and Abroad.

The capabilities which have now for more than twelve years distinguished these Crucibles are the following:—

Their quality is uniform. They withstand the greatest heat without danger. Their average durability for Gold, Silver, Copper, and other ordinary metals is forty to fifty pourings, in some cases reaching one hundred. They never crack, and heat more rapidly than any other kind. One annealing only is required. Change of temperature has no effect. They can when hot from the furnace be dipped in cold water with safety. The saving of labour and metal is very great. In Steel Melting the saving of fuel has been demonstrated to amount to a ton and a half to every ton of steel used. For Zinc they last longer than iron pots, and save the great loss which arises from mixture with iron. Those for Malleable Cast-iron show an average working of seven days, doing each day nearly double the work of any other crucible.

As these crucibles last much longer than any others, it follows that the saving of metal must be great, because to each worn crucible a quantity of metal adheres. In fact, comparing these with other crucibles, the saving of metal and fuel is more than equivalent to their cost.



A are made in sizes varying from 2 ozs. to any required capacity, and are marked by the quantity of kilograms they will contain; thus No. 100 will contain 100 kilogrammes.

B differ in shape, but correspond in all other respects with A, and are similarly marked.

C are marked in English pounds—thus, a crucible marked 60 will contain 60 lbs.

D are made expressly for steel in various sizes.

CRUCIBLES MADE TO ANY SHAPE AND SIZE TO ORDER.

Some unprincipled manufacturers having made

such close imitations of our Trade Mark as cannot

fail to deceive the public, we have deemed it ad-

visable to alter our Mark as here shown. It will

be observed that the alteration consists in the

OMISSION of the words—"DEPOTS AT PARIS

AND ROTTERDAM," and the ADDITION of the

words—"MORGAN'S PATENT."

In all future orders, please specify "MORGAN'S PATENT," and address to

BATTERSEA WORKS, LONDON, S.W.

Price 1s. 6d., by post 1s. 8d.

NOTES ON THE MINES OF THE RIO TINTO DISTRICT:
Containing a DETAILED REPORT upon the MINES and on the MEANS of RENDERING THEM MORE PROFITABLE, as well as an ACCOUNT of the PROCESS OF TREATING POOR ORES of COPPER, successfully used there.

By JOSEPH LEE THOMAS, Assoc.I.C.E.
London; MINING JOURNAL OFFICE, 26, Fleet-street, E.C.

THE NEWCASTLE CHRONICLE AND NORTHERN COUNTIES ADVERTISER. (ESTABLISHED 1764.)
Published every Saturday, price 2d., or quarterly 2s. 2d.

THE DAILY CHRONICLE

THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Per share.	Last paid.
1500 Alderley Edge, c, Cheshire*	10 0 0.. - ..	8 17 8.. 0 5 0..	July 1867	10 0 0.. - ..	..	..	..
200 Botallack, t, St. Just	91 5 0.. 180	488 15 0.. 5 0 0..	May 1866	170 180	..	..	..
4000 Brookwood, l	11 0 0.. - ..	8 0 5.. 0 2 6..	Sept 1866	..	..	..	..
1000 Broniford, l, Cardigan*	12 0 0.. - ..	8 7 0.. 0 6 0..	Aug. 1867	..	..	..	..
6400 Cashwell, l, Cumberland*	2 10 0.. - ..	8 1 6.. 0 1 6..	Aug. 1866	..	..	..	..
916 Cargoll, s-l, Newlyn	15 5 7.. 14 ..	13 15 0.. 1 0 0..	Feb. 1867	..	..	..	..
1867 Cwm Erfin, l, Cardiganshire*	7 10 0.. - ..	23 18 0.. 1 0 0..	June 1867	..	..	..	..
128 Cwmystwyth, l, Cardiganshire	60 0 0.. - ..	379 10 0.. 3 0 0..	April 1867	..	..	..	..
280 Derwent Mines, s-l, Durham	300 0 0.. - ..	174 10 0.. 5 0 0..	June 1867	..	..	..	..
1024 Devon Gt. Consols, c, Tavistock*	1 0 0.. 420	390 410	1067 0 0.. 7 0 0..	July 1867	..	..	..
358 Dolcoath, c, f, Camborne	128 17 6.. - ..	831 10 0.. 3 0 0..	Aug. 1867	..	..	..	..
6144 East Caradon, c, St. Cleer	2 14 6.. 4% 5%	14 11 6.. 2 0 2..	July 1867	..	..	..	..
300 East Darren, l, Cardiganshire*	32 0 0.. - ..	146 10 0.. 2 0 0..	July 1867	..	..	..	..
128 East Pool, t, c, Pool, Illogan	24 5 0.. - ..	407 10 0.. 5 0 0..	July 1867	..	..	..	..
5000 East Rosewarne, c, Gwinear	2 15 0.. - ..	8 10 6.. 0 1 6..	Jan. 1866	..	..	..	..
1900 East Wheal Lovell, t, Wendron	3 9 0.. 7 ..	3 1 6.. 0 6 6..	..	..	..	..	..
2800 Foxdale, l, Isle of Man*	25 0 0.. - ..	70 10 0.. 0 10 0..	June 1867	..	..	..	..
5000 Frank Mills, l, Christow*	3 18 6.. - ..	3 5 6.. 0 5 0..	..	..	..	..	..
5000 Great Laxey, l, Isle of Man*	4 0 0.. 17 ..	17 18.. 6 15 0.. 0 10 0..	June 1867	..	..	..	..
5908 Great Wheal Vor, t, Helston	40 0 0.. 17 ..	11 13 0.. 0 7 6..	June 1867	..	..	..	..
1024 Herodfoot, l, near Liskeard	8 10 0.. 33% 30 33	42 0 0.. 1 10 0..	..	..	..	..	..
6000 Hindston Down, c f	5 10 6.. - ..	0 10 0.. 0 5 0..	..	..	..	..	..
400 Lisburne, l, Cardiganshire	18 15 0.. - ..	492 10 0.. 3 0 0..	May 1866	..	..	..	..
9000 Marke, c, Caradon	4 10 6.. 4% 5 ..	3 0 0.. 0 3 0..	..	..	..	..	..
20000 Miners Boundary, l, Wrexham*	1 0 0.. - ..	0 13 0.. 0 3 0..	May 1867	..	..	..	..
1800 Miners Mining Co., l, Wrexham*	25 0 0.. 180	218 18 0.. 6 5 0..	Mar. 1866	..	..	..	..
4000 Mwyndy Iron Ore*	7 0 0.. - ..	..	..	..	..	..	..
200 Parys Mines, c, Anglesey*	3 5 0.. - ..	..	..	..	..	..	..
12800 Prince of Wales, t, Calstock	12 0 6.. 57s.	50s. 52s.	0 2 6.. 0 2 6..	Mar. 1866	..	..	..
6000 Prosper United, t, c, St. Hilary	8 14 0.. - ..	0 5 0.. 0 5 0..	Feb. 1867	..	..	..	..
1120 Providence, t, Uy Lelant	10 6 7.. 28 ..	27 28.. 82 17 6.. 0 10 0..	..	..	..	..	..
512 South Cadron, c, St. Cleer	1 5 0.. 355 ..	350 360	562 10 0.. 6 0 0..	May 1867	..	..	..
6000 South Darren, l*	3 6 6.. - ..	..	..	..	..	..	..
500 Summer Hill, Mold	3 13 6.. - ..	..	..	..	..	..	..
6000 Tincroft, c, f, Pool, Illogan	9 0 0.. 12% 12 12% ..	18 11 0.. 0 5 0..	Jan. 1867	..	..	..	..
2000 Trumpet Cons., t, Helston	11 10 0.. 12 ..	11 5 0.. 0 5 0..	June 1867	..	..	..	..
3000 W. Chiverton, l, Perranzabuoy	10 0 0.. 65 ..	66 68 ..	19 7 6.. 2 0 0..	May 1867	..	..	..
400 West Wheal Seton, c, Camborne	47 10 0.. 145 ..	145 130 ..	476 10 0.. 3 10 0..	Aug. 1867	..	..	..
512 Wheal Bassett, c, Illogan	5 2 6.. 72% 65 70 ..	625 0 0.. 2 0 0..	Aug. 1867	..	..	..	..
1024 Wheal Friendship, c, Tavistock	20 0 0.. - ..	300 10 0.. 0 10 0..	Nov. 1866	..	..	..	..
4295 Wheal Kitty, c, St. Agnes	5 4 6.. 2% ..	3 1 0.. 0 2 0..	Feb. 1867	..	..	..	..
1024 Wheal Mary Ann, l, Menheniot	8 0 0.. 15 ..	14 15 ..	61 15 0.. 0 15 0..	June 1867	..	..	..
2090 Wheal Rose, c, Scorrier	- - - - - ..	..	..	..	..	..	..
396 Wheal Seton, t, c, Camborne	58 10 0.. 110 ..	105 110 ..	246 15 0.. 2 10 0..	Aug. 1867	..	..	..
1040 Wheal Trelawny, s-l, Liskeard	5 17 0.. 9 ..	8 9 ..	54 14 6.. 0 4 0..	June 1867	..	..	..
3000 Whitehead Lead, Clitheroe*	0 5 0.. - ..	..	0 10 0.. 0 10 0..	July 1867	..	..	..
17000 Wicklow, c, f, Wicklow	2 10 0.. - ..	..	46 15 0.. 1 0 0..	April 1867	..	..	..

FOREIGN DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus.	one.	Last Call.
20000 Australian, c, South Australia*	7 7 6.. - ..	0 1 0.. - ..	..	..	..	..
15000 Cape Copper Mining*	7 0 0.. 8 ..	7% 8 ..	2 12 6.. 0 10 0..	Aug. 1867	..	..
100000 Don Pedro No. del Rey, Brazil**	6 0 14 ..	17% 2% 21% ..	0 4 3.. 0 1 6..	April 1866	..	..
25000 Fortuna, l, Spain*	2 0 0.. - ..	2% 2% ..	1 5 4.. 0 2 0..	Oct. 1867	..	..
20000 Gen. Mining Assoc., Nova Scotia*	20 0 0.. 18 ..	16 18 ..	23 19 0.. 0 15 0..	June 1867	..	..
10000 Gonneau, l*, [5000 £ pd., 5000 £ pd.]	3 0 0.. - ..	..	10 per cent.	..	..	..
15000 Linares, t, Spain*	3 0 0.. - ..	1% 1 ..	11 6 4.. 0 8 0..	Jan. 1867	..	..
50000 Panucillo, c**	3 0 0.. - ..	2 2% ..	10 per cent.	..	..	..
30000 Peñaranda Land and Mineral**	- - - - - ..	2 10 0.. 23% 21% ..	0 2 6.. 0 2 6..	Mar. 1867	..	..
30000 Pestarena, g**	2 10 0.. - ..	23% 21% ..	0 2 6.. 0 2 6..	Mar. 1867	..	..
10000 Pontigbiaud, s-l, France	20 0 0.. - ..	..	4 14 3.. 0 11 0..	June 1867	..	..
100000 Port Phillip, g, Clunes*	1 0 0.. - ..	1% 1 ..	16 16.. 0 1 0..	Jan. 1867	..	..
1200000 Scottish Australian Mining Co.	1 0 0.. - ..	1% 1 ..	7% 1% ..	Sept. 1866	..	..
11000 St. John del Rey, Brazil**	15 0 0.. 58 ..	56 58 ..	77 5 0.. 4 10 0..	June 1867	..	..
8000 Victoria (London) [25000 £ pd., 25000 12s. 6d. pd.]	1 0 0.. - ..	..	0 9 0.. 0 10 0..	Jan. 1866	..	..
40000 West Canada Mining Company**	1 0 0.. - ..	..	0 19 6.. 0 2 6..	May 1866	..	..

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus.	one.	Last Call.
25000 Alamillos, l, Spain*	2 0 0.. - ..	1% 1.. 3% 1 ..	..	..	..	..
100000 Anglo-Brazilian, g**	0 10 0.. - ..	..	..	..	..	..
12500 Anglo-Italian, g**	0 5 0.. - ..	..	..	..	..	..
40000 Brittany Silver-Lead Mines, France* [15750 18s. pd.]	0 5 0.. - ..	..	..	..	..	..
2464 Burras, Burra, S. Australia*	5 0 0.. - ..	..	31 1/2 ..	..	..	..
25000 Capula, s, Mexico*	1 12 0.. - ..	..	..	..	..	..
30000 Chontales, g, s, Nicaragua*	4 0 0.. - ..	4% 4% 43% ..	Aug. 1866	..	..	..
12000 Cobre Copper Company, c, Cuba*	43 10 0.. - ..	..	..	..	..	..
10000 Copiado Mining Company, Chile**	16 10 0.. - ..	..	..	..	..	..
10000 Copiado Smelting, Chile*	10 0 0.. - ..	..	..	..	..	..
300 Copper Miners' Co. of South Australia* [150 £100 pd., 150 £70 pd.]	5 0 0.. - ..	..	..	..	..	..
15000 El Chico Silver Mining and Reduction Company*	5 0 0.. - ..	..	..	..	..	..
8000 English and Canadian Mining Company*	5 0 0.. - ..	..	..</	